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NUCLEAR REGULATORY COMMISSION INSPECTION PROGRAM AND THE OYSTER CREEK, N.J., NUCLEAR FACILITY

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE
COMMITTEE ON
GOVERNMENT OPERATIONS
HOUSE OF REPRESENTATIVES
NINETY-SIXTH CONGRESS
SECOND SESSION

MAY 28 AND 29, 1980

Printed for the use of the Committee on Government Operations

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NUCLEAR REGULATORY COMMISSION INSPECTION PROGRAM AND THE OYSTER CREEK, N.J., NUCLEAR FACILITY

WEDNESDAY, MAY 28, 1980

House of Representatives,
Environment, Energy,
and Natural Resources Subcommittee
of the Committee on Government Operations,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2154, Rayburn House Office Building, Hon. Toby Moffett (chairman of the subcommittee) presiding.

Present: Representatives Toby Moffett, Robert F. Drinan, Andrew Maguire, Mike Synar, and Arlan Stangeland.

Also present: John R. Galloway, staff director; Barry Hager, senior counsel; and Catherine Sands, minority professional staff, Committee on Government Operations.

OPENING STATEMENT OF CHAIRMAN MOFFETT

Mr. Moffett. The subcommittee will please come to order.

We are here today to discuss one of the most difficult and important responsibilities now facing the Nuclear Regulatory Commission. That is how to insure that the 68 operating nuclear power reactors are operated safely and competently by licensees with sound management practices.

We are here specifically today to focus on an important new NRC inspection program intended to be a major contributor to that primary regulatory goal of insuring safe and competent operation of commercial nuclear reactors.

No one would quarrel with the proposition that reactors should be safely operated. Neither the industry's advocates nor its harshest critics could disagree with such an elementary proposition.

Yet, the urgency and the difficulty of achieving that goal has become an intense topic of debate over the last year, especially since the accident at Three Mile Island.

Although the nuclear industry, at times, is understandably reluctant to face the fact, a major lesson of the TMI experience—a lesson underscored by every study of that sobering event—is that the people who manage and operate these complex machines day after day are just as critical to safety as the hardware.

The industry and the regulatory agencies have a longstanding assumption that adequate design and construction would produce machinery failsafe against human error. It was forever exploded

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not only by TMI, but by a year of subsequent events that frighteningly corroborated the TMI lesson.

Let us not forget that since TMI, at least three other major similar incidents have produced jusitifiable fears or a repeat of Three Mile Island. An accident almost precisely mimicking the TMI case was narrowly averted in a plant in Crystal River, Fla., leaving another containment floor flooded.

Another failed valve at an Arkansas plant similarly flooded that containment, resulting in radioactive releases. And, as some of you may recall, just 5 weeks after TMI itself another plant owned by a subsidiary of the owners of Three Mile Island went into emergency shutdown because of a dangerously low level of cooling water protecting the reactor core.

That plant, of course, was the Oyster Creek, N.J., facility owned by Jersey Central Power & Light Co., a subsidiary of General Public Utilities, just like Metropolitan Edison, the owners of Three Mile Island.

Those incidents may have gotten the bulk of the headlines, but they are not isolated events. As those who read the daily reports from the NRC on the so-called unusual occurrences realize, snafus and glitches of various magnitudes at operating nuclear reactor sites are a daily reality.

They are a constant reminder of the humbling possibility of human error in the operation of these powerful and dangerous machines.

As we all know from our experience in many fields, there is typically a range of the caliber of performance in any endeavor. Some are stars and others, at best, are benchwarmers.

One of the most significant, but little noticed conclusions of the studies of the Three Mile Island accident—including both the Kemeny and Rogovin studies—is that the nuclear industry is just the same. In fact, those groups found that the NRC and the industry have long been aware that there are poor performers and weak utilities in the nuclear power business, just as there are comparatively stronger nuclear licensees.

The distressing fact, however, is that the NRC has never yet been able to come to grips with the implications of that raw observation.

The agency has been reluctant for years to arrive at any system of grading or ranking utilities to reflect their competence and quality of management.

To use the obvious analogy, the NRC has run a pass/fail system for the utilities, one where it seems no one ever fails. In fact, it has been one where utilities have not really faced the possible discipline of being labeled an inferior performer and told publicly to improve or suffer the consequences of a lost license.

The NRC program we are examining in these hearings this morning and tomorrow morning is an effort to strengthen the regulatory process by at last identifying the consistently weaker utilities in an objective fashion and accelerating the enforcement and regulatory attention to those utilities.

It is an important effort and one that deserves congressional support. We are here to learn about the status of that program, about its needs and problems, and about the NRC's plans for that program.

The subcommittee will actually be examining two programs that the NRC plans to mesh. First, there is the overall effort to objectively assess the performance of licensees. This is called the systematic assessment of licensee performance, which NRC witnesses will describe.

Second, there is the new group within the Inspection and Enforcement Division of NRC, called the Performance Appraisal Branch. This group, from which we have two representatives this morning, is a new specialized team with veteran NRC inspectors.

This PAB team performs indepth inspections at selected sites to assess the licensee's overall management strengths and weaknesses.

An important additional objective of the PAB team through the special intensive inspections is to evaluate the adequacy of the current NRC inspection program and its implementation by the five NRC regional offices.

Historically, NRC and its predecessor agencies have not conducted a uniform nationwide inspection program for nuclear licensees. The operating reactors have been inspected on an on-going basis by each of the regional headquarters of the Inspection and Enforcement Division of NRC.

All the reactors in the Northeastern United States, for example, are the responsibility of region I of NRC, headquartered near Philadelphia in King of Prussia, Pa. We have this morning two officials from region I to discuss the PAB program and their experience with it as well.

The principal case study that the subcommittee will utilize this morning to understand the work of the PAB group is their inspection and report concerning the Oyster Creek facility, owned by Jersey Central.

That inspection report was highly critical of the Oyster Creek management controls in a number of specific areas. Since that report early this year, the NRC has taken enforcement action against Jersey Central and the utility has agreed to an extensive timetable to solve the problems spotlighted in the PAB report.

The subcommittee will hear from representatives of Jersey Central, NRC region I and NRC headquarters on what has been done and whether it is an adequate response to the Oyster Creek problems.

As chairman of this subcommittee, I want to make one crucial point to the press and the public. We here on this subcommittee are not equipped and do not intend to decide which utilities are qualified to remain in operation and which should be shut down, either temporarily or permanently.

In examining the Oyster Creek case, I, for one, am not passing judgment on that utility's performance. However, this oversight subcommittee has a mandate to see to it that the NRC is doing its job.

That job, as I view it—and the other members of the subcommittee, I am sure, view it—includes making precisely those hard regulatory calls. Failure by the NRC to do so in a consistent fashion jeopardizes the public health and safety in violation of the Atomic Energy Act.

What we do know, thus far, about the Oyster Creek case is that there is a considerable history, documented by NRC inspections including the PAB effort and by the licensee's own audits and consultant studies, of longstanding problems and an apparent corporate inability to solve those problems in a timely manner.

Therefore, we must—and we will—take a hard look at the adequacy of the NRC's regulation of Oyster Creek and other nuclear licensees with such documented management problems.

It is not enough to examine the past regarding Oyster Creek. The subcommittee, as I have said, wants to learn the future NRC plans regarding its new inspection programs.

Tomorrow morning we will hear from I & E Director, Victor Stello, on those plans. We also want to know what plans the utility has for improving its own operations. GPU has already announced and filed papers with the Securities and Exchange Commission regarding plans to merge its nuclear facilities, including both Oyster Creek and Three Mile Island, into a new GPU nuclear subsidiary.

These plans are to be implemented over the next few months. Tomorrow morning we will hear from GPU President Herman Dieckamp about GPU's plans to improve its management of both TMI and Oyster Creek through this new subsidiary.

Our first witnesses this morning are two representatives of the PAB effort. I will call them in a moment. But first the Chair asks if any members have any opening statements.

If not, our first witnesses are Wayne Shafer and James Gagliardo.

Gentlemen, will you please come forward and remain standing?

As you may know, it is the practice of the subcommittee, so as not to stigmatize any witnesses, to swear in all witnesses.

Would you please raise your right hand?

Do you solemnly swear that the testimony you are about to give this subcommittee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. SHAFER. I do.

Mr. GAGLIARDO. I do.

Mr. MOFFETT. Please be seated.

Welcome to the subcommittee, gentlemen.

Would you please give your full names for the record. Then you may begin.

We understand there is a statement, which, without objection, will become part of the record.

The Chair would prefer that you summarize that statement, but if you feel strongly about reading it, and if you think it is important to your presentation, you may do that as well.

Please proceed.

STATEMENT OF WAYNE D. SHAFER, ACTING CHIEF, PERFORMANCE APPRAISAL BRANCH, OFFICE OF INSPECTION AND ENFORCEMENT, NUCLEAR REGULATORY COMMISSION; ACCOMPANIED BY JAMES E. GAGLIARDO, INSPECTION SPECIALIST

Mr. SHAFER. My name is Wayne D. Shafer. I am presently the Acting Chief for the Performance Appraisal Branch.

Mr. GAGLIARDO. My name is James E. Gagliardo. I am an Inspection Specialist with the Performance Appraisal Branch of the Nuclear Regulatory Commission.

I would like to submit our prepared testimony for the record.

Mr. MOFFETT. Without objection, so ordered.

Mr. GAGLIARDO. I will summarize the introductory part of our written testimony which addresses the Performance Appraisal Branch inspection concept. Then Mr. Shafer will discuss the Oyster Creek inspection efforts, since he was the team leader of that inspection effort.

The NRC inspection program is a dynamic program which is designed to assure the safe operation and the proper construction of reactor facilities.

In June 1977, a revised inspection program was adopted by the Commission which established a resident inspector program and included a national performance appraisal function.

The Performance Appraisal Branch was created as a result of this program to evaluate licensee performance from a national perspective; to evaluate the effectiveness of the NRC inspection program; and to confirm the objectivity of the NRC inspectors.

The Performance Appraisal Branch has developed two inspection methodologies to implement these objectives.

One of these methodologies, which we entitled the "Management Appraisal Inspection" is designed to determine how the licensee manages licensed activities to assure continued compliance with the regulatory requirements and guidance that are imposed on it.

This varies somewhat from the regional based inspection program which is more compliance oriented.

The management appraisal inspections examine the licensee's management systems in a number of functional areas and look for five basic features in that management system, which are shown in attachment 1 to our written testimony and in attachment 2 which outlines what we entitled the "Users Guide" for the inspector's use of this model.

This management model, which is applied to all of the functional areas, and the specific regulatory requirements and guidance applicable to each of those specific areas, is used as the basis for developing a specific inspection checklist, which is used in the inspection of all of the facilities that we inspect under this program.

The findings from these management appraisal inspections are documented in inspection reports. We had previously used one inspection report. We are currently planning to go to a two-inspection report concept.

The inspection report will address what we entitle "Enforcement Findings," which include items of noncompliance, deviations, and unresolved items. It will also include what we term observations, which are general information items about the licensee's management control system and the perceived strengths and weaknesses in that management control system.

Third, the inspection report will contain conclusions which are drawn by the inspection team regarding the licensee's management of that functional area.

The Performance Appraisal Branch will also submit an annual report sometime after the end of each fiscal year which will summarize the findings from each of these inspection efforts that have been performed in the past year and will also identify and make recommendations regarding any appropriate changes to regulatory requirements or guidance or changes to the NRC inspection program that we see as necessary based on these findings.

Mr. **Moffett**. Mr. Shafer?

Mr. **Shafer**. Mr. Chairman, I would like to start with the Oyster Creek inspection as to when it started.

We received a request from the Commissioners in August 1979 to conduct an inspection at the Oyster Creek facility.

The inspection plan was made up based on our performance appraisal/management appraisal program and included about three other areas that the Commissioners wanted us to look at.

This was submitted to the Commissioners in September 1979 and approved on September 24, 1979.

The inspection started October 1, the next month, and was concluded November 8, 1979. The team spent a total of 752 man-hours at the site and the corporate office. In addition there was an in-office review of approximately 500 hours. This is equivalent to about 1 man-year of inspection effort.

Of the 15 areas that were inspected by the performance appraisal team, 7 of the areas were identified as having poor management controls.

Those areas were the fire prevention/protection program in the construction phase; the nonlicensed training program; the inservice inspection 10-year program; the maintenance program; the quality assurance audits; radiation protection; and radioactive wastes.

These findings, and a summary of the findings, were sent to the Commissioners on January 11, 1980. A copy of this report was sent to the licensee on January 4, and the licensee, Jersey Central Power & Light, responded on March 17, 1980.

In their response they acknowledged the concerns the Performance Appraisal Branch had identified and they had set a timetable to correct these areas.

The Performance Appraisal Branch met with the region I management on April 8, 1980, to discuss the response. The content of this meeting is identified in a memo dated April 17, 1980. But the major areas that were discussed had to do with the timeliness of the corrective action, the generic review of the problem, and interim measures to be established.

A comparison of the Oyster Creek inspection to other performance appraisal inspections is appropriate. Previous to the Oyster Creek inspection, we conducted five other management appraisals.

During these management appraisals at the other licensees, we spent about 275 man-hours to 300 man-hours onsite. The additional hours spent at the Oyster Creek facility was primarily as a result of the Commissioners' request that we make an indepth review of the licensee's procedure program, an indepth review of the radiological protection program, and a review of the past operating experience at the facility.

At previous inspections, we did make procedure reviews, but it was primarily to understand the licensee's program. We also reviewed past operating experience at the other five facilities, but it normally was a 30-day sample of daily operations.

The radiological protection program was previously addressed by PAB but in much less detail than what we did at the Oyster Creek facility.

The Performance Appraisal Branch program, even at the time of Oyster Creek, was still being developed, that is, our technique. The number of hours spent at the first five facilities do vary, primarily because of that. We were developing our program, and even today we are developing it.

As an example, since the Oyster Creek inspection, the Performance Appraisal Branch has developed what we identify as a generic checklist, and, the decision to issue two reports.

Oyster Creek was the first facility wherein the inspection report contain conclusions based on the inspector's experience and knowledge of the facility that was being inspected.

We have developed some concerns that appear to be generic problems. Right now they are in draft form. They relate to three particular areas. One is the nonlicensed training program. For all the licensees we have looked at to date, there appears to be poor management controls in each of those licensee's programs regarding unlicensed training.

The second significant problem area that we are looking at relates to the quality assurance program implementation.

This can be subdivided into two areas. One is the corrective action area. The second area is the maintenance activities performed under the quality program.

The third area is the equipment control program.

As I said before, this is being worked on and will either come out in a separate report or will come out in the Performance Appraisal Branch's annual report.

The next part of the program that the Performance Appraisal Branch was required to perform was regional assessment. This was a directive from Mr. Stello in November 1979.

The assessment of RI was completed and submitted on March 7, 1979. The assessment covered three areas. One relates to the NRC module inspection program and the region I findings versus the Performance Appraisal Branch's findings.

The second part covered the extent of program implementation over a 3-year period and the last part covered an intense review of the inspections that were performed by region I at the Oyster Creek facility for the year 1979.

There were two meetings held as a result of this assessment. The first one was held on April 8, 1980. The second one was held on May 22, 1980.

The discussions for the first meeting are in that memo of April 17. The second meeting—very quickly, the Performance Appraisal Branch had no concerns with the corrective action that the regional office has identified and that they are going to perform. I believe that both organizations, that is, region I and the Performance Appraisal Branch have a good understanding of each other's positions.

I would now like to discuss the Performance Appraisal Branch problems that we have identified within our own group.

The first area relates to staffing of the Performance Appraisal Branch. At present we have six active members and one member on special assignment.

We were scheduled for fiscal year 1980 to have 17 personnel onboard and in fiscal year 1981 we were scheduled to have 24 personnel.

There are several reasons for this manpower shortage. The first one obviously is NRC's commitment to the resident inspection program.

The second area relates to the recent hiring freeze that was imposed on the NRC.

The third area primarily has to do with the Performance Appraisal Branch and the NRC inspector's understanding of it. We have people out in the field who are concerned about the Performance Appraisal Branch and are not interested, for several reasons.

The first reason being that of promotability. There is no promotability within the Performance Appraisal Branch. There is promotability for those people who have left the Performance Appraisal Branch. I believe Mr. Gagliardo will discuss this in a few minutes.

The second area of concern relates to whether or not the Performance Appraisal Branch will be relocated and the subsequent costs and trauma that occur when you move your family.

We also note—and this is not lately—but the Performance Appraisal Branch has experienced a considerable amount of excessive travel in order to perform their work.

Finally, of course, we are in an adversary position primarily because when we assess regional activities, we are, indeed, assessing management and their performance.

Regarding management support, we have found, that is, the Performance Appraisal Branch team members, that the headquarters organization has placed no restraints on the development of our present program as it exists.

We have had problems with regard to other assignments that are not related to the management appraisal or program appraisal program. These assignments have included the TMI investigations, the systematic assessment of licensee performance development, and other investigations that have taken place across the Nation.

In general, we have, since the concept of the Branch to fiscal year 1979, found that 48.5 percent of our time is spent on nonmanagement or program appraisal efforts.

Regarding regional management, we have found, that is, it is the Performance Appraisal Branch's opinion that the regional support for the Performance Appraisal Branch is minimal.

This obviously can be expected when we are in an adversary role. We have noted some resistance to a new program.

Last, I guess the biggest concern we have is the lack of communications. With the number of people we have, they are always out on the road. It is difficult to get them into the office and get everybody to understand what we are trying to do.

Mr. **Moffett**. That communication problem was between whom?

Mr. **Shafer**. Between the Performance Appraisal Branch and the regional offices.

The PAB members all feel we can improve that. Obviously, that is both parties not communicating. We feel that by working with the regions, we can reduce some of these concerns.

Mr. **Gagliardo**. Mr. Chairman, you had asked in your request for us to also address the perceived needs for the Performance Appraisal Branch's program, which is discussed in section VI of our written testimony.

I would like to summarize that.

Basically we feel that the principal need for the Performance Appraisal Branch is the recruitment of additional personnel.

We feel that this effort should also include consideration of recruiting of section chiefs and the establishment of senior inspection specialist positions within the Performance Appraisal Branch.

I noted in the written testimony that we have, since the inception of PAB, lost six PAB members who have been promoted out of PAB. And, a seventh member who left PAB because of the lack of promotional opportunities within PAB.

We feel that to support the future needs of the Performance Appraisal Branch, management needs to select a permanent Performance Appraisal Branch chief and to make a decision with regard to the physical location of the Performance Appraisal Branch function.

We feel that management needs to recruit section chiefs and to establish senior inspection specialist positions, and, last, to organizationally locate the Performance Appraisal Branch into a position which is independent of the functional divisions within the Office of Inspection and Enforcement.

With regard to the question that was raised on the safety of nuclear powerplant operations and the adequacy of the inspection program, the Performance Appraisal Branch has, to date, not identified any significant safety issues which would require immediate action.

I would note that if we had identified any real safety issues, we would have initiated immediate action to take some corrective action.

With regard to the NRC inspection program, our inspection records have generally shown it to be capable of identifying problems in the areas of compliance with the regulatory requirements and guidance, under which the licensee is to operate.

That concludes our summary.

Mr. **Moffett**. Thank you, gentlemen. That is very helpful.

As I said, we have your entire testimony which has been made a part of the record. It is very well done.

Mr. **Shafer**. Mr. Chairman, I have a corrected copy of our testimony and would like to submit that.

Mr. **Moffett**. Certainly. The clerk will certainly get that from you.

At this time the Chair, as is the usual practice, will call on members for questioning.

The gentleman from Massachusetts, Mr. Drinan, is recognized.

Mr. **Drinan**. Thank you, Mr. Chairman.

I thank both of you gentlemen for your testimony. It is my understanding that the PAB report on Oyster Creek identified 7 of the 15 areas as having poor management controls, 7 more having only average, controls.

What are the sanctions for this situation, assuming that Oyster Creek does not correct these immediately? Has that been determined?

Mr. SHAFER. The decision for sanctions, of course—that is, for imposing sanctions is within the regional office and the headquarters office. The result of the discussions that have taken place—I believe Mr. Grier will be able to address that area.

Mr. DRINAN. The president of Jersey Central, Mr. Shepard Bartnoft, is going to testify. From my reading of his testimony, he seems to feel that he and his associates are in compliance.

What would be your reaction to that?

Mr. SHAFER. Today they may well have established interim measures to assure that they are in compliance. But the conclusions drawn last year during our inspection, of course, still stand unless we were to go back out there and perform another inspection based on what they are doing today.

Mr. DRINAN. On a broader base, I must say that it is distressing to me, as someone relatively familiar with the nuclear industry, to discover that although this new team is going in and rating the various plants online, only four or five are done each year.

So, as I calculate it, it will be 15 years before this new team is able even to get around to all of the existing nuclear plants.

Are there any emergency plans to expedite or to increase the number of inspectors and qualified people?

Would you not feel that the industry itself and the NRC would want a crash program to somehow get this inspection going immediately?

Mr. GAGLIARDO. As I identified in the section we entitled the "Needs for the Performance Appraisal Branch," we strongly feel that a strong recruitment effort is necessary to bring our strength up to the budgeted level of 17 people so that we could get on with doing more inspections of this type.

But if that will be done, I think that is a question that needs to be addressed.

Mr. DRINAN. The NRC clearly has the power to require all the licensees—in the interim—to do this themselves. Why can you not just say to everybody beyond Oyster Creek, all the licensees, that they have to provide, within 6 months, the answers to these safety questions.

They will have to get qualified people and make the necessary investigations. Otherwise, their license is suspended.

Mr. GAGLIARDO. The licensees currently have a requirement for a quality assurance program and a quality assurance organization to, if you will, police their operation.

We still have inspection efforts above and beyond that effort, by the NRC, to look at what the licensee is doing in this area.

Mr. DRINAN. Let me approach the Oyster Creek facility and ask for the implications of finding that 7 of the 15 areas have poor management controls.

Does that mean there is a safety factor involved? The management is poor; it is not even average. Could that really mean that there is a safety hazard at Oyster Creek?

Mr. **GAGLIARDO**. No, sir. As I indicated earlier, if we in the Performance Appraisal Branch felt there was a safety issue that would require immediate corrective action, we would have raised that issue to management right away.

What we are saying when we say the licensee has a poor management control system is that the system that he has for controlling the activities in that area are below the average that we have seen. We do not call it below average. We classify it as poor, meaning that the licensee should take some corrective action to bring those controls up to speed.

Recognizing that we are looking at a management control system and how the licensee manages it, the licensee could have a poor management control system and still be operating the plant safely because of the fact that he has some very strong and experienced people in vital positions who are in effect, keeping him out of trouble and keeping him in compliance with his requirements.

The concern we have is that by having a poor management control system, if he begins to get turnover and loses some of these strong people in that vital position, he does not have the management control system which would assure that a person coming in who was not as strong and experienced will continue to operate.

Mr. **DRINAN**. My time has expired. I thank you very much.

Mr. **MOFFETT**. The gentleman from New Jersey, Mr. Maguire, is recognized.

Mr. **MAGUIRE**. Thank you, Mr. Chairman.

Gentlemen, I have heard it said—and I would like your reaction to this—that with respect to supervision of construction, quality control, inspection, and so forth that we are very, very good at it when we are talking about the space program or nuclear facilities operated by the Department of Defense, a nuclear plant in a submarine, or an aircraft carrier.

However, by comparison, our efforts on the civilian nuclear power generation side generally have been far inferior.

Do either of you have a comparative frame of reference that would allow you to comment on that?

Mr. **SHAFER**. I have none.

Mr. **GAGLIARDO**. I have no frame of reference with regard to the inspection efforts in the other two programs you address.

I personally feel that we in NRC have a strong inspection program. If, in comparison, others feel that ours is much weaker than the other two programs, then they, quite frankly, must have one fine program, because I think ours is a very good program.

Mr. **MAGUIRE**. Since when have resident inspectors been present on a full-time basis at existing nuclear plants around the country?

Mr. **SHAFER**. That still is under development for some of the sites. I believe the commitment was to have all sites manned by June of this year.

Mr. **MAGUIRE**. When did you initiate that program, which I believe does differ from the approach that was taken in earlier years?

Mr. **Shafer**. The NRC had a test program in the region III office in 1974 with two resident inspectors being placed onsite for about a 3-year period.

The major emphasis with the resident inspection program appears to have taken place after the, or during the TMI problems.

I am sorry; I stand corrected. It was at least 1 year before TMI when they started emphasizing it. I think they sent eight men out at that time.

And, of course, TMI has accelerated that.

Mr. **Maguire**. I and other members emphasized at the time of Three Mile Island what we believed to be the importance of this kind of onsite full-time presence. I suspect that the timetable for implementing that has at least been somewhat accelerated as a result of Three Mile Island.

Mr. **Shafer**. Yes, sir.

Mr. **Maguire**. There are two potential difficulties that I see here, and I would like you to comment on each of them. First is the problem of co-optation. Is someone who is present for up to 2 years at a nuclear power facility in danger of being co-opted by the management of the facility he is assigned to oversee.

Do you see that as a problem in terms of the objectivity of that person?

Second, how do you get comparable data and comparable reports from resident inspectors, or even from the PAB team, given that there are different individuals involved at sites around the country? Additionally, can you assure comparability in subsequent evaluations?

We are looking here for accurate evaluation and double checking. How do you respond to those two potential criticisms or pitfalls?

Mr. **Shafer**. I think I can respond to the first one regarding the resident inspector program.

The development of the resident inspector program also caused the development of the performance appraisal program. One of the objectives of the Performance Appraisal Branch is to assure the objectivity of the inspectors.

This is one tool that will be used to make that determination. The continuous regional support provided to the resident inspector, obviously, is a second tool that will be used for management within the regions to make a determination regarding that resident's activities and how well he is doing.

Mr. **Maguire**. What about the second potential pitfall?

Mr. **Gagliardo**. I do not know, Mr. Maguire, that I completely understood your second question. Could you restate that, please?

Mr. **Maguire**. How do you get data for evaulations that are consistent with each other when you have different people conducting the inspections and the evaluations at different plants in different parts of the country at different times?

And, in particular, how do you anticipate Mr. Bartnoff's statement, which my colleague from Massachusetts has already alluded to?

He makes the case that the inspections are not now performed on the basis of a uniform and standardized set of procedures or points of evaluation and that indeed judgments of management quality are in their very nature subjective.

That is the kind of concern that lies behind my question.

Mr. Gagliardo. Let me indicate, first of all, that it is true that the individual inspection reports or the evaluations that are made at an individual facility are made by that inspector and his management that is involved with that program.

This is one of the functions of the Performance Appraisal Branch. We evaluate licensee performance from a national perspective.

Another program which we have not discussed that Chairman Moffett mentioned is the systematic assessment of licensee performance. This is a program in which you have two facets.

One is an evaluation of the licensee's performance by a regional board made up of the inspector who is involved in the day-to-day activities of that licensee and the regional management who is also involved with the inspection efforts of that licensee.

This board makes an appraisal of that licensee's performance over the year. The results of all those appraisals from the five regions go to our headquarters and are reviewed by a review group of senior managers.

Those managers are looking at those appraisals and are also looking at input that they receive from our licensing organization and also input that is received from the Performance Appraisal Branch.

The function of that review group is to try to normalize these appraisals using the other inputs that they have; namely, the input from licensing, NRR, and the input from the Performance Appraisal Branch and to try to get some uniformity.

Mr. Maguire. Are you saying you have uniformity? Or, you do not have it, but you are trying to get it?

Mr. Gagliardo. There is a program which spells out the method for doing the evaluation which hopefully will strive to get closer to a uniform appraisal across the country. But then this review group will do the final normalization, if you will, of those appraisals from the different regional offices.

Mr. Maguire. Is it important to have a specific set of instruments that are uniform and standardized? Or, is it really impossible to achieve that degree of standardization?

Mr. Gagliardo. I do not think it is impossible. It certainly is important, but it is a difficult task. We have tried to do that in the Performance Appraisal Branch in the inspection program that we have developed.

Mr. Maguire. And that is coming along? The SALP program is not really fully implemented, as yet, as I understand it; is that correct?

Mr. Gagliardo. The SALP program is not fully implemented. But our inspection effort in the Performance Appraisal Branch has been very finely tuned.

Mr. Maguire. Turning to this Oyster Creek plant, my colleague from Massachusetts referred to some of the deficiencies, and their poor ratings.

The poor ratings are for management control of fire protection; training of nonlicensed individuals; inservice inspection and testing of pumps and valves; maintenance; radiation protection; radioactive waste monitoring; and quality assurance audits.

You have labeled all of those as poor, which sounds frightening indeed.

On the other hand, the Oyster Creek plant's record in terms of downtime is extremely good. I believe it is the 19th best in the United States among operating plants.

Where do you come out as national evaluators on the question of the Oyster Creek plant? Where do you place it? How do you characterize it after all of the data are in and all of the evaluations have been performed?

What are we to conclude about this particular plant?

Mr. **Shafer.** I believe, Mr. Maguire, the number of Performance Appraisal Branch inspections that have taken place to date makes that a very touchy area.

We have felt from the beginning that we needed a base data to say whether or not we could give a national perspective to a licensee based on what we have found.

The Oyster Creek facility, even though it was the sixth inspection performed by the Performance Appraisal Branch, was the first one that the inspection report actually identified the conclusions and made the determination of poor, average, and good.

Mr. **Maguire.** Why did you not do that for the others?

Mr. **Gagliardo.** We did not have enough information prior to that. We felt that we could start doing it at the time of Oyster Creek.

Mr. **Maguire.** So we are not going to have any comparative-basis then to evaluate Oyster Creek until you are further down the line and you have done a similar job with respect to any number of other plants; is that correct?

Mr. **Shafer.** That is correct. Our objective was to write an annual report for fiscal year 1980 which would include the Oyster Creek facility and the other facilities inspected during this year.

Mr. **Maguire.** The chairman is looking down the row at me. I do not know what that means.

Could I just ask one final question, Mr. Chairman?

Mr. **Moffett.** Certainly.

Mr. **Maguire.** Why, in your opinion, wherever Oyster Creek may be on the scale—and I take it that comparatively we cannot make any judgment here today that is definitive other than there clearly are weaknesses that have been identified—were these weaknesses not identified and dealt with by region I prior to your sending in the PAB team?

What is it about the way we have operated in the past that created a situation in which those weaknesses were not identified, not acted upon, not corrected, prior to the national PAB team coming in?

Obviously this is an important question because as you say the PAB team has done only six inspections and this is the first one in which you came out with the qualitative summary judgments.

We have some 68 or more nuclear plants operating in the country. What can you tell us right here today about what the regions are doing? Why was the region so unable to get on top of this situation?

And, by extension, do we possibly have a problem in other parts of the country with many other plants because regions are not doing their job? What is the answer to that?

Mr. Gagliardo. Let me answer that with a couple of comments.

First of all, recognize that the regional-based inspection effort is a compliance-oriented inspection in which they are looking at verification that the licensee is in compliance with his regulatory requirement.

We, in the Performance Appraisal Branch, are looking at the licensee's management controls and how he manages those functional areas.

So, you have a difference of perspective.

The other thing to consider is that we did this inspection with a team of six men there for the better part of 4 weeks and expended a total of something like 752 hours at the licensee's facility, which matches, or probably exceeds what the region had expended in its inspection effort at that facility in the year 1979.

Mr. Maguire. But the region has somebody there 100 percent of the time.

Mr. Shafer. Not at Oyster Creek, sir.

Mr. Maguire. A resident inspector; no?

Mr. Shafer. Not yet.

Mr. Maguire. There has been no resident inspector at Oyster Creek full time?

Mr. Shafer. That is correct.

Mr. Maguire. How many nuclear powerplants in the country are monitored by full-time resident inspectors from the regional offices? How many of them have full-time resident inspectors right now?

Does this gentleman wish to identify himself and answer the question?

Mr. Chairman?

Mr. Moffett. Mr. Grier, would you raise your right hand?

Do you swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. Grier. I do.

Mr. Moffett. Identify yourself for the record.

Mr. Grier. Mr. Chairman, I am Boyce Grier, the director of the region I office.

With respect to your question on the resident inspector program, let me, by way of background——

Mr. Maguire. Wait a minute. I do not want any background right now. I want this answer from somebody as to how many of the 68 nuclear operating plants in the United States presently have full-time resident inspectors.

Mr. Grier. I cannot answer that.

Mr. Maguire. Does anyone at the table know the answer to that?

Mr. Grier. Our target date is by June 7 to have a resident inspector or equivalent at all operating sites.

Mr. Maguire. This June 7?

Mr. Grier. Yes, sir.

And by September 30—the end of this fiscal year—to have two inspectors at all of them.

Mr. Maguire. Do we have one of them at Oyster Creek now?

Mr. GRIER. We have the two selected; one onsite and the other onsite June 7. We will have two inspectors there; yes.

But during the performance of the PAB assessment there was not a resident inspector at Oyster Creek.

Mr. MAGUIRE. Then what was region I doing by way of inspecting for what Mr. Gagliardo describes as compliance? Is that something different from making sure that things are properly managed and operated and that the public is adequately protected? Is that something different from the issues that the PAB report has raised?

Mr. GRIER. We were carrying out the inspection program as defined. It is compliance oriented; that is true.

I believe, however, that the areas which the Performance Appraisal Branch has assessed as being poor, the region had recognized the management problems. And corrective action was underway.

Mr. MAGUIRE. Mr. Chairman, I think we need to explore this in greater detail when the witnesses from region I testify.

Mr. MOFFETT. Yes; they will be back at the table. But I think the gentleman's questions are very pertinent.

Mr. MAGUIRE. Thank you.

We will get back to you, Mr. Grier.

Mr. Shafer and Mr. Gagliardo, do you have any additional comments on this line of inquiry before you go to the mercies of other members of the committee?

Mr. SHAFER. No, sir, I have none.

Mr. MOFFETT. The Chair now recognizes the gentleman from Minnesota, Mr. Stangeland.

Mr. STANGELAND. Thank you, Mr. Chairman.

Could a plant ever be shut down as a result of your findings?

Mr. GAGLIARDO. Yes; I believe a plant could be shut down.

Mr. STANGELAND. Who would have the responsibility to shut that plant down?

Mr. GAGLIARDO. The responsibility would be vested with our headquarter's organization and the regional office involved with that license.

The regional office could issue an immediate action letter requiring the licensee to take some immediate action. But for the actual shutdown of that licensee, that would be a responsibility of our headquarters—our I & E headquarters.

Mr. STANGELAND. I & E headquarters of the NRC?

Mr. GAGLIARDO. Yes.

Mr. STANGELAND. Then the PAB itself would not have that authority, but the PAB could make that conclusion?

Mr. GAGLIARDO. That is correct. If we saw a safety issue which we felt needed some immediate action on the part of NRC, we would immediately communicate to our management our problem and our recommendations.

Mr. STANGELAND. You state in your testimony, I think on page 12, that you had problems because there were some assignments given that affected your ability to perform your functions.

One of the assignments dealing with the inspection of TMI which, of course, was an emergency situation, along with some other special investigations, was the responsibility of developing a systematic assessment of licensee performance.

What is the difference between SALP and the stated objectives of the performance appraisal function?

Mr. GAGLIARDO. SALP is an assessment program in which you have the involvement of senior NRC management taking inputs from the regional appraisals, the appraisals that are made by NRR, the licensing arm of the NRC, and the Performance Appraisal Branch and any other offices which may develop an appraisal methodology.

Their job, then, is to review and evaluate all of those inputs and to determine if any immediate corrective action is needed, such as sanctions against the licensee or if it appears that some licensing action is needed.

Mr. STANGELAND. But that really did not hamper your ability to perform because your responsibility is to do those inspections. I would expect that the systematic analysis, SALP, changes are updated as you become more sophisticated in your inspection procedures and as you get more input from the field.

Mr. GAGLIARDO. The SALP program takes an input from the Performance Appraisal Branch. Once those two programs are running and fully implemented, the SALP function is independent of the Performance Appraisal Branch function.

We in the Performance Appraisal Branch would be doing our inspection activities and providing input to the SALP review group. So, they are not married.

Mr. STANGELAND. Is not SALP a kind of checklist or guideline as to what the inspectors are looking for in the plant?

Mr. GAGLIARDO. No, sir, SALP is an overall assessment program. It includes this review group of the senior managers of NRC plus the regional appraisal and the inputs that we, in the Performance Appraisal Branch, would provide.

Mr. STANGELAND. All right. You inspected five facilities prior to the Oyster Creek inspection. The average time expended was 275 man-hours to 300 man-hours.

You used 752 man-hours at Oyster Creek and also an additional 500 man-hours in the office. You are required to do some additional inspections at Oyster Creek over and above your previous five.

Of the 752 man-hours, I am wondering how much additional time that took? How much additional time is the additional requirement of the NRC?

Mr. SHAFER. I would say that it would be strictly a guess on my part. But I would say 300 hours to 500 hours more.

Mr. STANGELAND. How did Oyster Creek compare with the five other facilities in areas which you inspected at the other five facilities?

Mr. SHAFER. The seven areas we identified at Oyster Creek include the three generic areas I discussed earlier, that is, nonlicensed training, the quality assurance program regarding corrective action and maintenance, and finally, the control of equipment, taking equipment out of service.

Mr. STANGELAND. Is there any reason to go back to those original five and check the same areas that you checked at Oyster Creek?

Mr. SHAFER. It would be a nice thing. We would like to do that because we feel the Performance Appraisal Branch program was being developed primarily at the same time that those inspections were taking place.

As we built up steam, by the time we got to the Oyster Creek facility, we had a fairly—what we thought was a representative good program for us to perform.

Since that time we have developed what we identified as a generic checklist. In answer to a previous question, this is in order to be consistent and perform our work regardless of the individual.

If we can look in a specific area, then we ought to be able to come up with good information.

Mr. **Stangeland**. On page 7 it says: "In addition PAB spent about 500 man-hours in preparation and review of the licensee's program."

So, in effect, you spent 1,252 man-hours at Oyster Creek rather than 752. Preparation and review of the program is what you were doing for the 752 hours estimate; was it not?

Mr. **Shafer**. The 752 hours was spent onsite. We spent the first 2 weeks of the inspection effort understanding the licensee's program, gathering documents, and reviewing those documents.

Mr. **Stangeland**. All right.

What will the onsite inspection program point out—priorities for specific inspections? I think Congressman Drinan pointed out that it would be 15 years before you can get all the plants inspected.

Will that show priority plants that need inspection immediately so you can go in there and prevent anything like Three Mile Island or, perhaps, correct some very bad deficiencies if there are any?

Mr. **Shafer**. Yes, sir. Our inspection program schedule is tentative in nature primarily for that purpose. If any region feels it is necessary for the Performance Appraisal Branch to come in, of course they can identify the need and how quickly they would like to have it done.

Of course, we will try very hard to accommodate them.

Mr. **Stangeland**. Do you have a priority list of plants now that you are going to move into or that you are inspecting? Will you check them one, two, three?

Mr. **Shafer**. We have a schedule. Based on the number of people we have, the only priority we have right now is the Three Mile Island facility. That inspection will start in July, I believe.

Mr. **Gagliardo**. If I could add a comment to that, the initial scheduling of the licensees that we would inspect in the Performance Appraisal Branch in this management appraisal methodology was that we used very strongly the recommendations made to us by regional management.

We had meetings with each of the regional managements to discuss the program and to receive their recommendations with regard to the licensees that they felt were in need of this type of inspection.

We do plan to rely very heavily on the output from the SALP program once it is fully implemented and would use that input to guide us to those licensees that appear to have a need for us to get in and look at their management control systems.

Mr. **Stangeland**. Let us go to your suggestions for the future of the PAB inspection program. I can understand why you should have a permanent PAB chief.

But concerning the question as to whether you consolidate into a single office or to remain dispersed in regional offices, it would seem to me that you have a specific program of inspecting plants. The only variance you are going to have in that inspection program is human frailty. One inspector is not going to inspect or analyze exactly like another one. But, basically, you are going to have much continuity; are you not?

Mr. **SHAFER**. Yes.

Mr. **STANGELAND**. If you are dispersed in that region, you can be just as easily on top of things with a final decisionmaking process here in Washington, based on the conclusions of that team in the region as to have a strong central office here in Washington; can you not?

Mr. **SHAFER**. I agree.

Mr. **STANGELAND**. On point (d) "Place PAB (organizationally) in a position which is independent of the functional division of IE * * *." It would seem to me that you are better in IE since really your responsibility is inspection and theirs is enforcement, and you are more or less under them. It is not going to gain anything to have a separate PAB branch, separate and apart from IE; is it?

Mr. **GAGLIARDO**. No, sir.

We are not saying we should be separated from IE. We are currently—we currently report to the Director of Reactor Construction, Inspection Division.

Right now that does not present a problem of independence because we have not yet begun an inspection methodology of construction facilities.

But if we, or if we do achieve the staffing that we are budgeted for, one of the plans we had was to begin to develop the methodology for a management appraisal inspection of the construction facilities also.

At that time we feel that we should be then taken from that functional division and put into either one of the nonfunctional divisions or some other office within IE that is not involved in the functional aspects of the reactor operation.

Mr. **STANGELAND**. Does not the NRC presently monitor construction of nuclear facilities?

Mr. **GAGLIARDO**. Yes; that is correct.

Under the Division of Reactor Construction Inspection, an inspection program is developed for inspection of construction facilities. Each of the regional offices has a branch which has inspectors who inspect facilities under construction.

Mr. **STANGELAND**. I have one last question.

Did you inspect the same area or areas in all of the previous inspections up to and including Oyster Creek? Did you inspect the same areas in those previous inspections?

Mr. **GAGLIARDO**. In the previous 5 inspections, we have, I believe it was 11 inspection areas. In the Oyster Creek inspection, we added four more areas.

Mr. **STANGELAND**. Yes; I understand that.

But you did inspect the same 11 areas in the previous 6 and those same 11 areas again at Oyster Creek, did you not?

Mr. **GAGLIARDO**. That is correct.

Mr. **Stangeland**. How did Oyster Creek compare with the other licensees in those 11 areas?

Mr. **Gagliardo**. We really have not sat down to rank the individual licensees. As we mentioned, Oyster Creek was the first one at which we decided that we could even draw conclusions.

We did not want to draw conclusions on the first five inspections because those conclusions would have been based only on the experience that the individuals had from their previous activities in the region they came from.

We wanted to have more of a national perspective so that when we drew a conclusion, we were basing it on our experience from the previous inspection effort.

Mr. **Stangeland**. Can you submit for us a list of those previous inspections?

Mr. **Gagliardo**. Yes.

Mr. **Stangeland**. Thank you.

Mr. **Moffett**. Without objection, so ordered.

[The material follows:]

The five facilities already inspected by PAB were the Brunswick plant in Southport North Carolina, owned by Carolina Power & Light; the Arkansas plant, Arkansas Power & Light, Russellville, Arkansas; San Onofre, Southern Calfornia Edison and San Diego Gas & Electric Co., San Clemente, California; Palisades, Consumers Power Co., South Haven, Michigan; Peach Bottom, Philadelphia Electric Co., Peach Bottom, Pennsylvania. The PAB group also had inspected the Rancho Seco facility owned by the Sacramento Municipal Utility District, Sacramento, Californa; that report had not been completed at the time of these hearings.

Mr. **Moffett**. The gentleman from Minnesota has raised a very important question which the Chair would like to pursue for just moment.

I am not willing to embrace entirely the idea that there is n basis for comparison here. In fact, is it not true that you hav expressed the view, in terms of overall management control, tha in fact Oyster Creek was the worst that you had seen?

Mr. **Shafer**. That was my expression; yes, sir, I did.

Mr. **Moffett**. So, I think the gentleman raises a very importan point which goes back to something Mr. Maguire earlier wa asking about—a basis for comparison.

We are trying to be responsible and not take that statement b you and draw unfair conclusions from it.

But both Mr. Stangeland and Mr. Maguire were pursuing son response in terms of comparison. I think it is fair to say that yo did make that general conclusion.

Mr. **Shafer**. Yes, sir, that was based on the fact that I ha performed five inspections. However, I was not involved in the fir two Performance Appraisal Branch inspections that took plac

Mr. **Moffett**. I understand.

With regard to the future of the PAB inspection program, seems to me that Mr. Stangeland was just asking questions abo your recommendations for the future improvement of this p gram.

It seems to me that one of the most important things is t business of recruitment.

I was recently at Marble Hill—the Marble Hill plant in In ana—and I heard the same thing about recruitment proble

I think it is something that concerns the industry. It is something that concerns the NRC regional offices. It is something that is of tremendous concern, this competition between the resident inspector program and a program such as yours for a small pool of talented people.

How are we going to work this out, in your view? How can it best be worked out? It is not your burden, necessarily. You are there trying to do your job and to find good people, as I understand it, for this program.

On the other hand—I look at a State such as my own, where they are cutting funds in a dramatic fashion from the very colleges that are going to train the kind of people that would be available to do this kind of thing, where there does not seem to be a priority in terms of vocational education at an early age or of getting people to begin thinking about doing this kind of work.

I wonder where we are headed with regard to this. Do you have any ideas on this? In the more immediate and more critical sense, do you have any idea of how this competition between yourselves and the industry and the regional offices of NRC and a variety of others, is going to be resolved?

How can we improve the situation for all concerned?

Mr. **Shafer**. I would like to address that, if I may, very quickly—the interim measures we are trying to establish right now as a result of our lack of manpower.

In fact, we are trying to get help from the regional inspectors—some of the section chiefs within the regions, or at least one or two of them to assist us in our performance appraisal work.

We are limited by the number of people we can get from outside to bring in and have them perform this appraisal program. This is primarily because there is a definite need for all people within PAB to have a full understanding of the Nuclear Regulatory Commission program.

So, we have to look inside the NRC, and for long term. Yes, we would like to go on the outside. I could not address to you where all the manpower is going to come from.

Mr. **Gagliardo**. I think one of the recommendations that we made in our paper with regard to the recruitment is this.

Certainly the regions have a problem in trying to fully implement the resident inspection program. They have sent most of their experienced inspectors to the resident sites. The question has to be raised as to, first of all, this. Should that be the priority within the agency? Should any of those people be pulled off?

Another consideration that management has to face is that here they have taken an individual, picked up his family, moved him to a resident site. Is it reasonable to pick that individual and his family up again and move them to wherever the PAB function is going to be located?

We recommend that a consideration would be that we could recruit some of the section chiefs that are in the regional offices. These people were experienced inspectors. They also bring with them some management experience which has been a criticism that we have received, the fact that none of us have been managers in NRC.

So, that certainly is one solution.

The long-range solution is a very difficult one. I think that is something that you will need to address with Mr. Stello.

Mr. **Moffett**. We intend to. All the witnesses and future witnesses—those of you in the room now—might be thinking about suggestions you might make.

I do not think it is acceptable that we should say: "Well, we are going to wait 15 years for the PAB team to get to all of these reactors."

That is before any of the reactors under construction ever come on the line, or those in the engineering phase and so forth.

So, this is an intolerable situation. It is easy for us to sit in consideration of the NRC budget authorization and add amendments saying that there will be a resident inspection program and everything. This is something very easy to do.

It has been done. We have mandated certain things. But we need to know from you this: should we rethink the resident inspector program in favor of putting more PAB teams in the field?

I am not suggesting that, you understand. But Congress is often criticized for over-regulating. Part of what we are saying here is this: if we believe in the PAB approach, we want to regulate where regulation is really needed.

We need your thoughts on that. Should we have more PAB teams in the field? Should that be a priority?

If you were in our shoes—and we are starting the markup in the Commerce Committee tomorrow on the NRC authorization bill—what would you do? Would you just let things go on as they are? Would you add more PAB teams? Would you alter the resident inspector program? Is there something the Congress should be doing with regard to training that we are not doing?

Is there some institute which is in existence or is there one that should be? We need to know these things.

This is unacceptable—15 years for you guys to get to all operating reactors before we ever talk about those under construction or in the engineering phase.

Mr. **Gagliardo**. I agree.

One of the things that is my personal perception of a problem I see that NRC management is facing—and I do not know if Mr. Stello will address it—but I know it is a concern of mine, is this.

The Commission is under a lot of pressure to try to hold down the average grade level of this organization. Our average grade level has crept up to where it is one of the highest in the Government and a lot of pressure has been exerted on our management to try to keep that down.

There is a lot of competition for good strong people by the industry. The industry also is staffing up very heavily to establish some of the programs that they are forming industrywide, plus each of the individual utilities.

I personally am a little bit distressed by the pressures put on our management and the fact that we are wanting somebody who has the performance traits, if you wish, of a Mercedes-Benz, but we are trying to pay them the rate for a Pinto.

That personally bothers me. That is something where you gentlemen might be able to help our management to free up some of the constraints that our management has in getting good quality people.

Mr. **Moffett**. I understand that; we appreciate that. But you are the ones who are out there in the field. If you do not tell us what the priorities should be, given nuclear resources—the political reality and so forth—we will not ever find out.

My own instinct is to say that this PAB approach is very important. We will see what these hearings reveal. I cannot conceive of us going along with just the one team. I think we need other teams.

Mr. **Gagliardo**. I agree.

Mr. **Moffett**. You agree with that? OK.

With regard to other inspections that you did, is it fair to say that you found significant problems with management controls at some of the other plants that you inspected over the last year? Would that be fair?

Mr. **Gagliardo**. Yes, that is fair.

Mr. **Moffett**. In fact, you actually were in the middle of an inspection at the Crystal River facility when that incident occurred that shut down the reactor and flooded the containment?

Mr. **Gagliardo**. That is correct.

Mr. **Shafer**. Actually, Mr. Chairman, we were within the first 6 hours of starting that inspection.

Mr. **Moffett**. I understand that you recently completed an inspection at Rancho Seco in Sacramento and your team is now writing that report.

Did you find significant management control problems in that area?

Mr. **Shafer**. Yes, we did. We have made no decision regarding conclusions. That takes place in the next week or two.

Mr. **Moffett**. OK.

Now let us look at the implications of this Oyster Creek report. Both Congressman Drinan and Congressman Maguire have pointed out the fact that you apparently selected some 15 functional areas to examine.

Presumably those were the ones you viewed as the most significant to operation of a nuclear plant. And, you indentified 7 of those 15 as having poor management control. That is your label—poor. Of the eight remaining, seven more were found to be average. What does average mean, in this instance? Does average mean an endorsement by you that you are satisfied with the level of performance?

Mr. **Shafer**. Not necessarily, sir. Average by the individual who made that conclusion means that this is pretty much what he has seen in his experience.

Mr. **Moffett**. But average implies, again, a comparison. Is it not true that average to you, when you grade them average, actually indicates it is a level of performance that you have seen elsewhere in the industry at this time?

Mr. **Shafer**. That is correct.

Mr. **Moffett**. So it could be deplorable—it could be. Well, there was only one area, was there not, of the 15 where you graded them good and that was in the area of physical protection or plant security? Is that right?

Mr. **Shafer**. That is right.

Mr. **Moffett**. The Chair at this time, without objection, will introduce the report on Oyster Creek into the record.

[See appendix 1.]

Mr. **Moffett**. Also, without objection, we will insert the staff discussion on the report. That also will be entered into the record.

[See appendix 2.]

Mr. **Moffett**. The report speaks for itself. But it would be helpful if we could focus a little more than we have on a few of those important areas that you labeled as having poor management controls.

First is quality assurance. Now quality assurance is, in effect, the internal audit aspect of the licensee. Is that not the one that basically sees to it that everyone is doing their job properly, something like the bank auditor watching the tellers and the loan officers?

Mr. **Shafer**. That is correct.

Mr. **Moffett**. You have already given us a general description of that. Is it fair to say that there were problems of resistance by some in the plant to the Q/A program?

Mr. **Shafer**. Problems regarding management's response to quality assurance efforts.

Mr. **Moffett**. And conflicts with the quality assurance personnel?

Mr. **Shafer**. There was an appearance of that; yes, sir.

Mr. **Moffett**. There were also large numbers of outstanding items where corrective action had not been taken for problems already found by those quality assurance audits; is that right?

Mr. **Shafer**. That is correct.

Mr. **Moffett**. Was there a significant backlog in the number of items that had gone uncorrected at the plant, even after those quality assurance audits had discovered the problem?

Mr. **Shafer**. Yes, sir. I think the number was 143, if I recall.

Mr. **Moffett**. As it happens, Jersey Central, at almost the same time that the PAB inspection and report was going on, were having a separate outside consultant study done on its quality assurance program—on their quality assurance program.

This is the one that, as I understand it, that is required by NRC regulations and the quality assurance plan of the licensee. Is that your understanding?

Mr. **Shafer**. That is correct.

Mr. **Moffett**. It is my understanding that you are familiar with that report, which was issued in January of this year by the Nuclear Power Consultants of Rockville, Md. Are you familiar with the report?

Mr. **Shafer**. I have read the report; yes, sir.

Mr. **Moffett**. Is it fair to say that the separate report specifically corroborates your findings regarding the problems in the quality assurance area?

Mr. **Shafer**. I believe it does; yes, sir.

Mr. **Moffett**. At this time, without objection, the Chair introduces this Nuclear Power Consultants' January report into the record.

[See appendix 3.]

Mr. MOFFETT. I do want to quote from its findings.

In its summary, the report notes that—and I quote—"There are serious morale problems in some departments." This report further notes—and I quote:

> There are several individuals whose level of anger, animosity, resentment, and frustration have almost rendered them incapable of performing their jobs within the requirements of the quality assurance program.
>
> Those persons who consistently avoid, bypass, or flout quality assurance program requirements must be identified and the necessary corrective action must be taken.

Those are rather disturbing conclusions, are they not?

Mr. SHAFER. I believe our inspection report identified the fact that there were morale problems.

Mr. MOFFETT. You were not that blunt about it, were you?

Mr. SHAFER. No, sir.

Mr. MOFFETT. This is an outfit, Nuclear Power Consultants of Rockville, Md., that is doing work for the utility. They are being that direct.

I am glad. I think that speaks well for the utility—going out and getting that kind of candid assessment. It speaks well for that firm in Rockville, Md.

But they are, in terms of the conclusion, rather disturbing.

You may not be aware of this history, Mr. Shafer, but I have with me a memorandum prepared by the NRC enforcement people in region I which traces events at Oyster Creek regarding their quality assurance program back as far as 1972.

At this time, without objection, the Chair introduces that memo into the record.

[The material follows:]

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

John G. Davis, Deputy Director for Field Operations, IE:HQ

QUALITY ASSURANCE PROGRAM FOR OPERATIONS
IE INSPECTION REPORT NO. 75-07
LICENSE NO. DPR-16
DOCKET NO. 50-219
JERSEY CENTRAL POWER AND LIGHT COMPANY (OYSTER CREEK)
TRACK NO.

Concerning the referenced inspection, we recommend the enclosed draft enforcement letter and notice of proposed imposition for civil penalty amounting to $5,000 for Dr. Knuth's signature.

We believe that a less desirable alternative consists of individual tabulation of specific items of noncompliance, and have also enclosed a second Appendix A in this format for your consideration.

Enclosure II describes the licensee's prior commitments with respect to program completion and implementation.

James P. O'Reilly
Director

Enclosures:
1. Draft of Enforcement Letter
   w/3 Appendices
2. Chronology of Licensee History
   Concerning Quality Assurance

cc: F. A. Dreher, IE:HQ
    W. P. Ellis, IE:HQ

Enclosure II

EXCERPTS

OYSTER CREEK QUALITY ASSURANCE

Date	Item
November 8, 1972	Region I (J. P. O'Reilly) ltr to JCP&L (R. H. Sims) re October 13, 1972 Management Meeting at IE:I. Noteworthy Quote: "It is our understanding...that your formal Quality Assurance Plan will be approved and issued by November 15, 1972, and that the detailed implementing procedures required by your plan will be issued by January 15, 1973. It is further understood that all aspects of your QA program as required by the above plan will be fully implemented by March 31, 1973."
December 8, 1972	JCP&L ltr (I. R. Finfrock) to Region I (J. P. O'Reilly). Noteworthy Quote: "We have found that we have underestimated the time it would take to approve and issue our formal 'Quality Assurance Plan'...every possible effort would be made to complete this plan by December 15, 1972."
March 15, 1973	JCP&L submitted FSAR Amendment 71, Operating Quality Assurance Plan. (Major revision of previous amendment)
September 17, 1973	J. P. O'Reilly Note to File re September 14, 1973 telephone calls: to the President of JCP&L (Dr. Bartnoff) re QA for Operations, especially staffing; and to the President, GPU (Mr. Coombs) re support provided by GPU.
December 18, 1973	USAEC (J. G. Davis, DDFO) ltr to JCP&L (Dr. S. Bartnoff, President) re November 5, 1973 Management Meeting at Region I. Noteworthy Quote: "We understand...that... implementing procedures for the Quality Assurance Program are being prepared, and that the GPU organization is providing additional support at the facility in deficient areas."
December 19, 1973	JCP&L submission of FSAR Amendment 71, Revision 1. (A major revision)
January 18, 1974	JCP&L (S. Bartnoff, President) ltr to USAEC-DRO-DDFO (J. G. Davis). Noteworthy Quote: "Recognizing that an Operational Quality Assurance Program is important and should be established at the earliest date, Jersey Central Power and Light Company is presently establishing a program which reflects both the urgency and expanded requirements being placed on utility operational quality assurance programs today." This letter also indicated that procedure issue would begin in April 1974.
October 1, 1974	JCP&L submission of FSAR Amendment 71, Revision 2. (Changes about 20% of the pages in the OQAP)
March 10-14, 1975	Inspection at Oyster Creek verified that QA Program is not implemented.

Mr. Moffett. That enforcement history shows that over a 3-year period from 1972 through 1975, despite constant efforts by region I, this Jersey Central management still did not implement its quality assurance program. That resulted in the recommendation by region I of a civil penalty against Jersey Central.

Here we are in 1980, several years later, with findings that 8 years after the NRC has been pressing Jersey Central to have an effective quality assurance program, it still has significant problems.

Mr. Shafer, I believe one of the mitigating findings that the PAB group made regarding the management failings at Oyster Creek was that in several cases they were aware of their problems through their internal audits.

But the truth is, as this shows, they did not appear to be able to solve problems in a timely fashion once they had found them. I hope that the utility people are going to tell us that has changed. But would you agree with that assessment of their past history, that they seem incapable of resolving these problems in a timely fashion once they are discovered?

Mr. Shafer. I agree with that assessment with regard to the PAB inspection. I was not aware of the data that you just discussed from 1972 forward.

I can certainly address, and I think we did in our inspection report, numerous times that the timeliness of response was highly questionable.

Mr. Moffett. Let us look, for example, at the maintenance area and other areas where the PAB team found poor management controls.

Did you not discover, in the course of your inspection last October and November, that Jersey Central had done an internal report on problems in the maintenance area at Oyster Creek back in May 1979?

Mr. Shafer. That is correct, sir.

Mr. Moffett. And you looked at that report, did you not?

Mr. Shafer. Yes, sir. I saw that the day before the final exit conducted at the corporate office.

Mr. Moffett. And you found that it corroborated your findings, is that not right?

Mr. Shafer. That is correct.

Mr. Moffett. So here again Jersey Central knew it had problems with the work being done by the maintenance staff for months prior to your inspection. But the problems remained; is that not right?

Mr. Shafer. Yes, some action had been started on those problems. I think I reported that in our inspection report.

Mr. Moffett. How about the fire prevention and protection program? When you did your inspection, you found a noncompliance that arose from the licensee's work modifying its fire protection system.

You also found that Jersey Central was behind in its schedule in that upgrading of its fire protection system.

I believe you told our staff before that this modification of the fire protection system that was still behind schedule late last year grew originally out of the requirements placed on NRC licensees because of the Brown's Ferry fire in Alabama. Is that correct?

Mr. **Shafer**. That is correct, sir.

Mr. **Moffett**. The Brown's Ferry fire was in March 1975, as I recall; is that right?

Mr. **Shafer**. Yes.

Mr. **Moffett**. Yet, here again Jersey Central is still in progress—and apparently making some mistakes—in implementing changes that NRC required on operating plants as a result of the lessons learned from that major fire which was long before Three Mile Island.

It really is not too comforting to us to realize that these past studies have indicated a major reason for the Brown's Ferry fire was the lack of an adequate quality assurance program that spotted the fire potential ahead of time.

Here we have problems, in this case, with both quality assurance and fire prevention programs.

Mr. **Stangeland**. Would the gentleman yield?

I had a question on this myself. It says they had poor management controls in areas of fire prevention/protection in construction phases. Were they in construction at the time of this inspection? Or, does the problem with fire prevention/protection come as a result of faulty construction? What is the construction phase?

Mr. **Shafer**. The construction phase was in progress. Parts of the fire protection system were under construction at the time of our inspection.

Our inspection report stated that in reviewing the fire protection program, we felt that once implemented, it would be a good program, in fact.

So, we strictly held to the work that was being done and how well it was being done.

Mr. **Stangeland**. It is the construction phase of the fire protection program.

Mr. **Shafer**. Of fire protection equipment being installed and so forth.

Mr. **Stangeland**. I thought it was the construction phase of the plant. I see.

Thank you, Mr. Chairman.

Mr. **Maguire**. Would the gentleman yield?

I would like to know what was going on with respect to fire protection prior to the implementation of this "good program." What was going on for the previous 10 years? Was there a sufficient fire protection plan in place?

Mr. **Shafer**. No, sir. I am sure there was. It was emphasized as a result of the problems at Browns Ferry and the NRC took a much closer look at it.

With regard to what has taken place with the NRC and the licensee as to commitments as to when that fire protection program would be fully installed, I do not now. Prior to the Performance Appraisal Branch inspection, or even for that matter the Brown's Ferry fire, there were fire regulations and requirements.

Mr. **Stangeland**. Mr. Chairman, if I may?

Mr. **Moffett**. Certainly.

Mr. Stangeland. Then, are you saying that the NRC changed the requirements or added additional fire and safety measures that the company had to comply with? Did they go into construction to do that? Is that what you are telling me?

Mr. Shafer. I believe what I am really saying is that NRC recognized the significance and the safety issue involved in potential fires—the fire protection program was developed.

Mr. Stangeland. So they added additional requirements?

Mr. Shafer. That is correct.

Mr. Stangeland. Was Oyster Creek in the process of trying to comply with that? Were their fire protection requirements adequate under the initial licensing process, but, because of some problems in other plants, they changed and strengthened the fire protection requirements?

Mr. Shafer. I think Jersey Central can address that better than I could.

Mr. Stangeland. OK; thank you.

Mr. Moffett. I have one more area where you found the utilities had longstanding problems with the radiation protection.

Again, I might add that this is an area where the past NRC enforcement does not really seem to have done the job. A civil penalty, one of the largest ever issued up to that time, was issued in January of last year to Jersey Central for its failings in this area.

Yet, the PAB report found serious deficiences, such as inadequate monitoring of radiation in the air at the plant, inadequate training of personnel to achieve worker protection from radiation, and a lack of corporate direction in this area of protecting the workers' health from radiation exposure.

Are all those accurate?

Mr. Shafer. Yes; sir.

Mr. Moffett. Now in your findings which you sent to Mr. Stello regarding the adequacy of region I's past inspection and enforcement program at Oyster Creek, you noted—and I quote:

> The chronic and repetitive nature of the items of noncompliance raises serious concerns about the effectiveness of the actions taken by Jersey Central to correct noncompliance brought to its attention in previous notices of violation.

Is not the bottom line here that Jersey Central's practices in this area give rise to substantial concerns about the health and safety of people who work at Oyster Creek?

Mr. Shafer. For the record, those are Mr. Thornburg's words in his cover letter to the assessment; is that correct, sir?

Mr. Moffett. Yes, what I just quoted.

Mr. Shafer. I do not think I can answer that issue. I can say that the radiation protection problem, or the problems, had been identified by the regional office. The underlying circumstances, I am sure, will be discussed by region I management.

The findings we had—and I believe it is because of our team concept that we used—that is, the six people working together and tying all these problems together that made it appear that we had a good grip as to what the overall management control programs were.

Mr. Moffett. All I am asking, is, with regard to this radiation protection issue, if people who become very concerned about the health and safety of those who work at Oyster Creek are overreacting?

Mr. SHAFER. The "as low as reasonably achievable" program exists to protect the worker also.

Mr. MOFFETT. As you know, gentlemen, Mr. Stello, your Director, in a January 11 memo to the NRC Commissioners, which explained your PAB report, said—and he was referring to those same problems and failure to resolve them by the management at Oyster Creek:

"We believe that their timely resolution of these issues is important to the continued safe operation of the facility."

Do you agree with that statement by Mr. Stello?

Mr. SHAFER. We concur with Mr. Stello; yes.

Mr. MOFFETT. Yet, you found that when Jersey Central submitted its timetable for solving its problems there were deadlined stretching well into 1981 dates which, as I understand, you found to be unacceptably slow.

Is that right?

Mr. SHAFER. That is correct.

Mr. MOFFETT. I guess the bottom line for us to figure out here is whether we can expect Jersey Central, based on its record, to respond to NRC enforcement actions regarding Oyster Creek. We will be speaking with those gentlemen from the utility very shortly.

But do you think we can ever expect Jersey Central, if we go by the past record, to respond to NRC enforcement actions regarding Oyster Creek in a way that would satisfy you?

Mr. SHAFER. I think we are always optimistic that they will start conforming.

Mr. MOFFETT. Fine. Was this a failure of region I's enforcement program or the licensee's attitude, or both? How do you read it?

Mr. SHAFER. I cannot address that. I really do not know.

Mr. MOFFETT. But there were problems with both, were there not?

Mr. SHAFER. Yes, sir.

Mr. MOFFETT. Are there further questions for the witnesses? The gentleman from Minnesota?

Mr. STANGELAND. I would just like to state, Mr. Chairman, before I ask the questions, that I am an advocate of nuclear power. However, I want to be sure that power is safe to the best of our ability, and I want to be sure that you gentlemen and the PAB team along with the NRC, have the proper tools to assure that safety.

I am wondering in the areas that you inspected and found poor management controls—besides the fire prevention and protection area—how many of those areas initially was Oyster Creek in compliance with?

They apparently were in compliance under their license initially in all areas. However, the NRC is concerned about the safety of the public as is the Congress.

There have been tightening up of requirements. There has been a new state-of-the-art. Things that at one time were considered not dangerous are now all of a sudden recognized as being dangerous situations.

How much of the problem that Oyster Creek is having is a result of tightening up of those requirements to try and provide more safety and better assurances to our public that this is a safe operation and that no dangerous thing is going to happen as a result?

How much change have they gone through that they now have to comply with, that they have to retrofit?

Mr. GAGLIARDO. Certainly they have had a number of changes that have come about over the years in improving or tightening the regulatory requirements. The one we discussed on fire protection was certainly one.

Based on the Brown's Ferry fire, a survey was done of all the industry, looking at fire protection and fire protection measures at these facilities. And additional regulatory requirements were imposed on all licensees.

I should point out that you should recognize that in our inspection effort we did identify a number of items of noncompliance where the licensee was not in compliance with the regulatory requirements that were currently required or imposed on them.

Mr. STANGELAND. How willing has the management of Oyster Creek, in your estimation, been to correct the deficiencies? I would expect that some of those deficiencies take a bit of time. Some can be done very rapidly.

Mr. GAGLIARDO. That is correct.

We did do a detailed review of the response that the licensee had submitted in response to the inspection report and the letter that Mr. Stello sent out on February 20.

I think that our impression was that if the licensee did, indeed, implement the corrective action that they had indicated in that response, we were satisfied that they would be on the right track.

Mr. STANGELAND. In other words, categorizing their response based on your review, their response would be good, fair, or poor?

Mr. GAGLIARDO. I thought their response was good, personally. I will have Mr. Shafer characterize it.

Mr. STANGELAND. Thank you.

Mr. MOFFETT. Do you have a question, Mr. Maguire?

Mr. MAGUIRE. Yes.

Thank you, Mr. Chairman.

One of the items that was identified as being a problem was training of nonlicensed personnel. An example of the kind of difficulty you can have in this area is a situation reported in the ABC news show "20/20" and confirmed by the NRC.

In the Fermi II plant, south of Detroit, pipe-stress engineers were hired through an outside contracting firm to do important work. It was discovered that these persons were unqualified to perform the tasks.

This is one of the areas in which Oyster Creek has been cited by you for deficiencies. It is also an item which you have labeled "generic." You have used the word "generic" several times today.

I would like to ask you if you would tell us precisely what generic means and what happens once an item such as the training of nonlicensed personnel is so labeled.

Does it become a matter of the highest urgency and priority because it is a problem which is present in many different locations? Or, as I am informed may be the case, does it become something on which you are less insistent with each individual licensee because of the fact that an answer overall has not yet been developed by NRC?

Mr. **Shafer**. There are two parts I would like to address, if I may, Mr. Maguire.

No. 1, we discussed the qualifications of an individual that is fairly well preset by the regulatory requirements.

When we address the training of nonlicensed personnel, they are—and we had no problem at the Oyster Creek facility with the individual meeting the intitial qualifications—the fact that the training of personnel had not taken place was the problem that we identified.

As I stated to you previously, we identified this problem at all the sites we have gone to to date in various degrees of significance.

By generic I simply—what I meant by that is that it appears that this is an overall problem that must be addressed by the Nuclear Regulatory Commission. The avenue I have chosen to take is a special report to my director recommending several options that could be available to us to insure, No. 1, that the licensee takes a close look at his program to make certain he is in compliance with the program, that guidance be provided with regard to the training, that is, the regulatory requirements that address training. This if for the inspectors in the field.

Finally, in the completion of those two parts, the inspectors that are in the region go and perform an inspection and make a very thorough examination as to how well the training of nonlicensed personnel is being conducted.

This might answer one of your concerns with regard to why should we wait for 15 years before we start doing something.

Mr. **Maguire**. One of my concerns may be a question of tone here. I am trying to figure whether it is just tone or whether it is substance as well.

Several times you have said: "Well, these are generic problems," as if to say, "We cannot crunch the utility for that specific matter because we, frankly, have not worked out the way we should handle this nationwide."

Is there a difference there in substance? Or, is a generic deficiency handled with the same degree of urgency and concern by the NRC in a specific location as something that might be peculiar to that location.

Or, do you wave your hand and say: "These are generic problems so we do not have solutions to those. We cannot worry about them too much. The utility is not going to be held responsible."

Mr. **Shafer**. We have an IE bulletin that is used to transmit that information to the licensee.

As a matter of fact, that is the one method that I was going to recommend, or am going to recommend, to my management to assure ourselves that the licensee, in the first place, looks at his program.

Mr. **Maguire**. Is compliance, with respect to these generic safety problems, something that you can clearly define and insist on, just as you can clearly define and insist on an absence of deficiencies in other areas which are not generic?

Mr. **Gagliardo**. I think that is one of the issues, as Mr. Shafer mentioned—the fact that one of the things we are recommending on the generic issue, or this particular generic issue, is an interpretation of the regulatory requirements for nonlicensed training.

We have had some discussions with some of the regional people with regard to what the regulatory requirements for nonlicensed training means?

There appears to be some differences in the interpretation of those requirements. Quite frankly, the requirements are not as detailed as the requirements for the training of the licensed operator.

To go back to another point of yours, you talked about when we identify what we class as a generic issue, does that mean that we back away from it? Quite the contrary—in our approach we are seeing an issue which we feel, by the classification of generic, is something that appears to be cropping up in each of these licensees. It is something that we think management ought to be taking a look at and taking some action on to correct it. We feel strongly enough about that type of issue.

Mr. **Maguire**. Do those issues then become more important to you? Or are they of the same importance as nongeneric safety issues?

Mr. **Gagliardo**. I think by the fact that we are seeing it, that is, this weakness in all the licensees, it becomes more important to us. Hence, we are taking the efforts to write a special report to our management asking them to address it or do something about this issue.

Mr. **Maguire**. Apparently all of the sites that have been examined were found not to be in compliance with respect to the training of nonlicensed personnel; is that correct?

Mr. **Gagliardo**. Well, I do not know that I would say noncompliance, but certainly they have weaknesses in the area of training. Again, there is an interpretation of the requirements.

Mr. **Maguire**. Are there any of the sites which can now be said to have eliminated those weaknesses? Or, are they all still short of what they should have on the licensing—I am sorry; on the training of nonlicensed personnel?

Mr. **Shafer**. We have not gone back to the other or to this licensee to have a look at it. I really do not know. I cannot answer that. I believe the regional office will be able to address that particular aspect.

Mr. **Gagliardo**. We do not know. The followup on noncompliance and other problems is turned over to the regional offices.

Mr. **Maguire**. Thank you, Mr. Chairman.

Mr. **Moffett**. Gentlemen, thank you very much for your testimony and for being with us today.

It would be helpful, gentlemen—and other members of the subcommittee have requested this—if you could remain with us—not through tomorrow, but for the rest of today in case some questions do arise.

[Prepared statement of Messrs. Shafer and Gagliardo follows:]

PREPARED TESTIMONY
OF
WAYNE D. SHAFER
AND
JAMES E. GAGLIARDO
PERFORMANCE APPRAISAL BRANCH
OFFICE OF INSPECTION AND ENFORCEMENT
U.S. NUCLEAR REGULATORY COMMISSION
BEFORE THE
SUBCOMMITTEE ON ENVIRONMENT, ENERGY AND NATURAL
RESOURCES OF THE COMMITTEE ON GOVERNMENT OPERATIONS
U. S. HOUSE OF REPRESENTATIVES
MAY 28, 1980

Mr. Chairman, our names are James E. Gagliardo and Wayne D. Shafer. We are Inspection Specialists in the Performance Appraisal Branch (PAB) of the Office of Inspection and Enforcement (IE) of the U. S. Nuclear Regulatory Commission (NRC). We are pleased to have the opportunity to discuss the concepts and activities of PAB with the Committee. As requested we will outline the inspection concepts of PAB, the implications of the management appraisal inspection on the Oyster Creek facility, and our assessment of the problems, future, and needs of the PAB inspection program. We will also provide our views regarding the safety of nuclear power plants operations and the current NRC inspection program for operating nuclear reactors.

1. PAB Inspection Concepts

The basic philosophy of the NRC inspection and enforcement program is that licensees are responsible for proper construction and safe operation of their facilities. The role of the NRC to assure that this responsibility is adequately discharged is satisfied, in part, by an inspection program that has evolved over a period of years.

In June 1977, the NRC approved a "revised inspection program" (NUREG-0397) that included placing resident inspectors at licensee sites, development of a national performance appraisal capability, development of an independent measurements capability, and enhancing the inspector career management and training programs. This program led to the creation of the Performance Appraisal Branch (PAB) which is currently under the Division of Reactor Construction Inspection in the Office of IE. The stated objectives of the performance appraisal function (and of PAB) are:

- Evaluation of the performance of NRC licensees from a national perspective;
- Evaluation of the effectiveness of the NRC inspection program; and
- Confirmation of the objectivity of the NRC inspectors.

PAB has developed two distinct types of inspection methodologies to satisfy these objectives. The methodologies are entitled Management Appraisal (MA) inspections and Program Appraisal (PA) inspections.

The MA inspections are the principal means for PAB's evaluation of licensee performance. These inspections also provide information for satisfying the second and third objectives listed above. The MA inspections will also serve to identify problems of a generic nature which are not adequately addressed by existing regulations, licenses, codes, standards, guides, or procedures. The MA inspection methodology has been structured to examine the tcicensee's management controls over fifteen functional areas. The emphasis of the MA inspections is to determine how the licensee manages licensed activities to assure continued compliance with regulatory requirements and guidance. This differs from the regional based inspections which are primarily oriented toward verification that the licensee is in compliance with the regulatory requirements and guidance.

For each of the functional areas inspected, the PAB inspection specialists examine the management control system for the following features.

a. Does the licensee have written procedures or policy documents to provide guidance in the management of the subject area?

b. Are the procedures and policy documents adequate for controlling the activities in the subject area to assure compliance with the applicable regulatory requirements and guidance?

c. Are the licensee personnel with responsibilities in the subject area qualified to perform their responsibilities and have they been trained and retrained to maintain their proficiency?

d. Do the individuals who have been assigned responsibilities in the subject area understand their responsibilities?

e. Have the requirements for the subject area been implemented to achieve compliance and have these activities been appropriately documented?

The five basic features of the licensee's management control system have been placed into an analytical tree to clarify the PAB inspection model. This tree which is entitled the PAB Management Evaluation Tree (MET) is shown in Attachment 1. The tree also shows the key elements for each of the five features. The key elements are the specific items reviewed by the PAB inspection specialists. They provide the basis for a detailed inspection checklist that is used by the PAB inspection specialist. The guidance provided to the PAB members regarding the use of the MET is provided in Attachment 2.

The MET chart provides a general management model that is generic to all of the functional areas inspected. Specific regulatory requirements, regulatory guidance, codes, standards, and the licensee's commitment relative to each of the functional areas is used to supplement the MET chart model and provide the basis for a detailed checklist that is specific to each area. The specific checklists are used to further evaluate the adequacy of the licensee's management program in each of the functional areas.

The findings from PAB's MA inspections are documented in one or two inspection reports (currently using two reports).

The report/s document the enforcement findings, observations and conclusions of the inspection team for each of the functional areas.

The enforcement findings include items of noncompliance, deviations and unresolved items, all of which have specific regulatory basis. The applicable regional office will followup and closeout the enforcement findings.

The observations are the perceived strengths and weaknesses of the licensees management controls and general information items for which there exists no well-defined regulatory requirements or guidance. The observations and the enforcement findings provide the basis for the subsequent evaluation of the licensee's management control systems. The licensee is not required to take corrective action regarding the observations. He is requested, however, to review the observations to determine if appropriate action would enhance the continued safe operation of his facilities.

The conclusions represent the evaluations of the inspection team for each of the functional areas. The licensee's management controls are categorized as "good," "average" or "poor" based on the results of previous MA inspections.

PAB will also prepare an annual report which will summarize the results of all inspections performed during the fiscal year and will include PAB recommendations. The recommendations will address changes in the NRC inspection program, regulatory requirements, regulatory guidance, codes, and standards which are indicated by the generic problems identified by the PAB inspection efforts.

II. Oyster Creek Inspection

On August 19, 1979 the Commission requested that a special review and evaluation be made of the Oyster Creek Plant owned by Jersey Central Power and Light, (JCP&L) a subsidiary of GPU.

As a result of this request, PAB submitted an inspection plan to the Commission on September 11, 1979. The plan included three enclosures. Enclosure 1 identified the scope of the inspection and the specific areas of the licensee's program that PAB would review. Enclosure 2 identified the Team and the assignments for each member. Enclosure 3 identified the PAB scheudle for performing the inspection. On September 24, 1979, the Commission approved the inspection plan and urged PAB to move forward promptly.

PAB had scheduled the Oyster Creek Plant for an inspection in 1980. The request from the Commissioners resulted in a schedule change. PAB's schedules are tentative in order to accommodate last minute management requests.

The Oyster Creek inspection started on October 1, 1979 and was concluded on November 8, 1979 by an exit interview with top JCP&L management. The total inspection effort at the licensee's corporate office and site was 752 man-hours. In addition PAB spent about 500 man-hours in preparation and review of the licensee's program. This total effort involved approximately one man-year.

Within the 15 areas inspected, PAB identified seven areas with poor management controls.

- Fire Prevention/Protection (Construction Phase)
- Training of nonlicensed personnel
- Inservice Inspection Program (ISI - 10 year program)
- Maintenance
- Quality Assurance Audits
- Radiation Protection
- Radioactive Waste

These areas are discussed in Inspection Report 219/79-18. This report and a summary report were sent to the Commission on January 11, 1980.

The licensee's response to the PAB report was received on March 17, 1980. PAB met with Region I management on April 8, 1980 to discuss the licensee's response. The details of this meeting are documented in a memorandum, Gagliardo to Thornburg, April 17, 1980.

III. PAB Inspection at Oyster Creek as Compared to Other PAB Inspections

PAB had inspected five other facilities prior to the Oyster Creek inspection. During these inspections the average time expended was 275 to 300 manhours. This differed considerably from the 752 manhours spent at Oyster Creek. The reason more time was used at Oyster Creek was because of additional areas of review requested by the Commission. PAB was requested to do an in-depth review of the licensee's procedures, a review of the Radiological Protection Program, and an in-depth review of past operating experience.

Previous PAB inspections included procedure reviews only as necessary for a good understanding of the licensee's program; past operating experience was limited to a 30-day sample of records where as Oyster Creek records review was for one year; and finally, the area of Radiological protection was covered in less detail.

It is important to recognize that the PAB technique for implementing the methodology was under continuous development as PAB progressed through those first five inspections. By the time of the Oyster Creek inspection the implementing technique was becomming standardized. The PAB technique is still changing as the program matures. PAB presently using a generic check list which was developed to ensure consistant inspection effort for all PAB inspections. The lessons learned from previous inspections will continue to be incorporated into the PAB program. Examples of these types of changes are: (1) PAB inspection reports written previous to Oyster Creek did not contain conclusions by the inspectors. The decision to make conclusions in the report was based on having performed five PAB inspections and using a team concept to review each conclusion; (2) subsequent to the Oyster Creek inspection PAB has chosen to issue two reports to the licensee; one compliance report and one appraisal report. This reporting method was established at the recommendation of regional management and an outside consultant.

As a result of seven PAB inspections to date, PAB has identified what appears to be generic problems in the areas of nonlicensed training, QA program implementation and equipment control requirements. PAB is presently working on a draft report to address these problems and will forward the concerns to NRC management.

IV. Region Assessment

Another function performed by PAB relates to regional activities. PAB is required to assess the activities performed by the regional office regarding the licensee under PAB review. The assessment of Region I activities was made and submitted to Mr. Stello, Director, IE on March 7, 1980. The assessment included: (1) an evaluation of the IE Inspection Program and Region I findings as compared to the PAB findings; (2) a review of the records to determine the extent of the IE inspection program implementation by Region I, and (3) a review of Region I inspection findings for the year 1979.

On April 8, 1980, PAB met with Region I management regarding PAB's assessment of the region and to discuss the licensee's response to the PAB inspection. A memo regarding this meeting was sent to Mr. Thornburg, Director, RCI, from Mr. Gagliardo on April 17, 1980.

On April 11, 1980 Mr. Stello requested Region I to respond to the PAB assessment and the regional response was issued on April 29, 1980. The response included four areas where Region I committed to provide corrective action to the regional program. PAB has reviewed these commitments and has no further concerns.

A PAB memo was forwarded to Mr. Stello on May 14, 1980. This memo addressed an audit conducted at Oyster Creek by an outside consultant organization, and the similarity of the findings in that report to the PAB findings.

On May 22, 1980, PAB met with Region I management to discuss the Oyster Creek findings and PAB's assessment of the regional activities. This meeting resulted in a better understanding of each group's position.

V. Problems of the PAB Program

The Performance Appraisal Branch (PAB) is presently staffed with six active inspectors and one PAB inspector on special assignment. PAB was budgeted for 17 positions in FY 1980, and 24 positions for FY 1981. The manpower shortage experienced by PAB may be attributed to several factors.

(1) Selection for PAB assignment has normally been made from the experienced inspectors within the regional offices. The availability of these personnel has become limited because of the NRC's commitment to the Resident Inspection Program.

(2) The recent hiring freeze imposed on the NRC has prevented PAB from hiring from outside the NRC. This option is a second choice because of the need to have PAB personnel who clearly understand the NRC programs.

(3) Personnel within the regional offices are hesitant to join PAB. There are several reasons for this.

(a) There is no promotability within PAB. The majority of the personnel promoted have left PAB for management positions within the regional offices. There has been no attempt to prevent PAB members from advancing their careers; however, the side effect is the loss of experienced PAB personnel.

(b) Fear of relocation is another concern expressed by candidates. The decision to place PAB in a central office or to leave PAB in the regions has not been made.

(c) Excessive travel is another concern of the present PAB members and the potential candidates. A central office would reduce some of the travel but the PAB function has required more travel than normal.

(d) The adversary role of PAB is another concern. Since PAB inspectors assess the implementation of the NRC inspection program and regional implementation, they are indirectly evaluating the performance of regional management.

The PAB program has been developed with wittle or no constraints imposed on PAB by Headquarters management. There are some assignments however that have had an impact on PAB's ability to perform their function. These additional assignments have included the TMI investigation, Systematic Assessment of Licensee Performanc (SALP) development, and other special investigations. An evaluation of the work efforts for PAB members indicated that from the formation of the Branch through FY 79, an average of 48.5% was spent by PAB members on assignments other than management or program appraisals. This information was developed for the PAB annual report.

The NRC regional management has provided minimal support for the PAB function as it now exists. This is to be expected due to the adversary role of PAB.

The present PAB members feel that this condition will be lessened of PAB remains in the regions which will enable continued communications with the regional offices.

VI Needs for the PAB Program

The most important need for the PAB program is the recruitment of additional staff to the budgeted level for the branch. This recruitment effort should include two considerations. First, certain members of the NRC staff have criticized the PAB staff's qualifications to perform management inspections because none of the current PAB members have held permanent management positions in NRC. These criticisms can be curbed by recruiting several of the existing section chiefs in IE as senior members of the PAB staff. The section chiefs would function as the team leaders in the MA inspections. The second consideration is the elevation of a number of positions (in addition to those filled by section chiefs) in PAB to the Senior Inspection Specialist level. These efforts would tend to stabilize the PAB staff which has suffered from a large turnover due to promotions out of PAB into management positions in NRC. Six PAB members have been promoted out of PAB in the two year existence of the Branch, and a seventh member left NRC because of the lack of promotional opportunities in PAB. The need for senior positions in PAB is also necessary because the MA inspection teams are inspecting senior management personnel in the licensee organizations and because of the natural adversary role between PAB and the regional offices. It is noted that existing staffs in IE use Senior Specialist positions so the implementation of these recommendations would not be precedent setting.

We feel that the following management decisions are necessary to support the future of the PAB inspection program.

a. Select a permanent PAB Chief. (This position has been vacant since October 1979).

b. Decide if PAB will be consolidated into a single office or if the branch will remain dispersed in the regional offices with a small staff in headquarters.

c. Decide if the recruitment of new PAB members should include existing section chiefs and/or the promotion of selected members to the Senior Inspection Specialist level.

d. Place PAB (organizationally) in a position which is independent of the functional divisions of IE since the inspection programs develope by the Division will be evaluated by PAB.

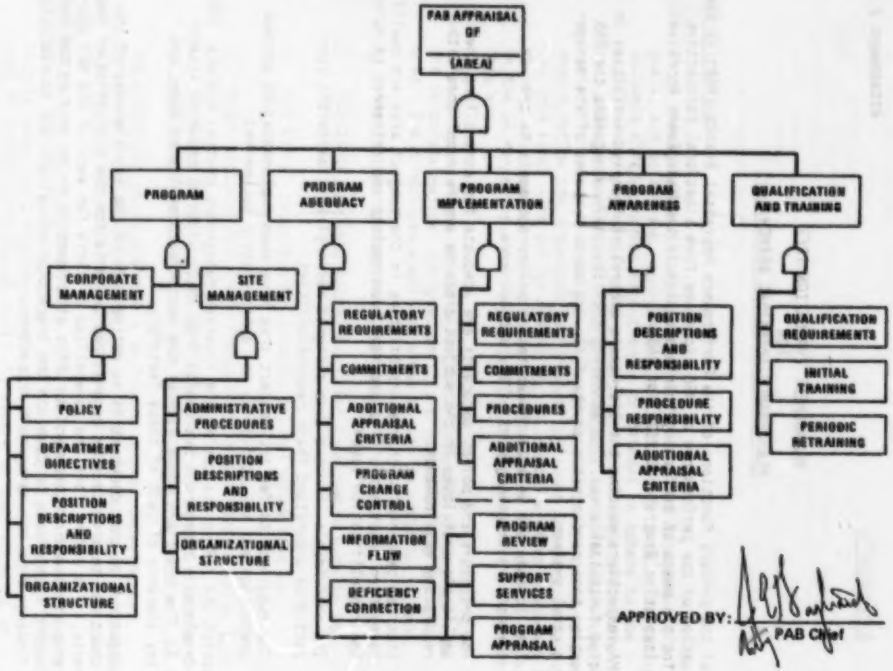
VII. The safety of nuclear power plant operations

Although PAB has identified areas of poor management controls at the licensee's inspected to date, these findings do not necessarily infer that the safe operation of these plants is jeopardized. The SALP program conducted by senior NRC management will review the PAB findings, regional input, and other data to assess licensee management.

PAB to date has not identified safety issues in need of immediate attention. Should a safety issue be identified, PAB would notify NRC management immediatel

The NRC module inspection program has not appeared to be a serious problem regarding the ability of the program to identify problems in areas covered by regulatory requirements and guidance.

IE PERFORMANCE APPRAISAL BRANCH
MANAGEMENT EVALUATION TREE


PAB APPRAISAL OF
(AREA)
PROGRAM
PROGRAM ADEQUACY
PROGRAM IMPLEMENTATION
PROGRAM AWARENESS
QUALIFICATION AND TRAINING
CORPORATE MANAGEMENT
SITE MANAGEMENT
POLICY
DEPARTMENT DIRECTIVES
POSITION DESCRIPTIONS AND RESPONSIBILITY
ORGANIZATIONAL STRUCTURE
ADMINISTRATIVE PROCEDURES
POSITION DESCRIPTIONS AND RESPONSIBILITY
ORGANIZATIONAL STRUCTURE
REGULATORY REQUIREMENTS
COMMITMENTS
ADDITIONAL APPRAISAL CRITERIA
PROGRAM CHANGE CONTROL
INFORMATION FLOW
DEFICIENCY CORRECTION
REGULATORY REQUIREMENTS
COMMITMENTS
PROCEDURES
ADDITIONAL APPRAISAL CRITERIA
PROGRAM REVIEW
SUPPORT SERVICES
PROGRAM APPRAISAL
POSITION DESCRIPTIONS AND RESPONSIBILITY
PROCEDURE RESPONSIBILITY
ADDITIONAL APPRAISAL CRITERIA
QUALIFICATION REQUIREMENTS
INITIAL TRAINING
PERIODIC RETRAINING

APPROVED BY: A E Bagasinski
Acting PAB Chief

Attachment 1

Attachment 2

MANAGEMENT EVALUATION TREE
FOR
PERFORMANCE APPRAISAL BRANCH

One of the primary functions of the Performance Appraisal Branch (PAB) is the evaluation of the performance of NRC licensees from a national perspective. A principle means of performing this evaluation is the Management Appraisal (MA) Inspection Program (MC-2911) of PAB.

The MA inspections examine the licensee's control of licensed activities in selected functional areas. In examining the licensee's management the PAB inspection team concentrates on the following basic features of the management control systems.

1. The licensee has written procedures or policy documents to provide guidance in the management of the subject area.

2. The procedure and policy documents are adequate for controlling the applicable activities in the subject areas to assure compliance with regulatory requirements.

3. Licensee personnel with responsibilities in the subject area are qualified to perform their activities and have been trained and retrained to maintain their qualification level.

4. The individuals who have been assigned responsibilities in the subject area understand their responsibilities.

5. The requirements for the subject area have been implemented to achieve compliance and all activities are appropriately documented.

To assist the PAB in evaluating the licensee management control systems, PAB has developed a Management Evaluation Tree (MET) which is shown in Attachment A. The MET chart shows each of the basic features listed above and the key elements of each of these features.

The objective of this document is to define each of the key elements of the MET chart and to provide some generalized criteria for the evaluation of the elements. The definitions and generalized criteria for each of the MET chart elements is given in Attachment B. This attachment is to be used by the PAB inspection specialists to develope the inspection checklists and to evaluate the findings from the management inspection.

ATTACHMENT 3

Users Guide For The PAS MET Chart

Program (Corporate)

Policy - There should be a written, up-to-date statement of management's policy, goals, and objectives regarding activities in this area. The policy document should express management's commitment to adhere to the regulatory requirements and any additional commitments which have been made to the NRC. It should also address any additional requirements which management desires to be implemented. The policy statement should define the organizational responsibilities (corporate and site) for this area. The policy statement should be a written statement from the top level manager over facility activities or a statement of policy in the QA Manual or other topical document of management's policy in this area.

Department Directives - There should be written, up-to-date directives from the corporate manager assigned principle responsibility for this area. The directives should be broad enough in scope to include:

1. Regulatory requirements to be met.
2. Standards, guides, codes, and other commitments made by the licensee.
3. Additional requirements (company policy) which have no regulatory bases.
4. Organizational responsibilities (ANSI N18.7-1976, section 3.2)
5. Functional descriptions of the departmental responsibilities and relationships in this area (ANSI N18.7 1976, section 3.2).

The directives would preferably be in the form of departmental procedures or instructions but can be in the QA Manual or other topical reports if their scope is such that they include the above features.

Position Description and Responsibility - The position or job descriptions of the individuals (managers and staff), assigned responsibilities in this area, should address their specific responsibilities and span of control with enough detail to assure an understanding of these responsibilities. A job description which has a "motherhood" statement such as "Responsible for the overall maintenance of the plant" is not adequate.

Organizational Structure - The licensee should have an approved, up-to-date organization chart which defines the lines of authority and communications for the corporate personnel having responsibilities in this area. The chart should show the lines of authority and communications from top level management to the site organization. The chart should be distributed, or made available, to all applicable corporate personnel.

Program (Site)

Administrative Procedures - There should be written, approved, up-to-date procedures which define in detail the responsibilities for implementing the activities in this area and provide detailed instructions and guidance on how these activities are to be performed. The procedures should reference the corporate policy statements and directives and cover all of the areas of responsibilities delineated in the corporate directives.

Position Description and Responsibility - The position or job descriptions of the site individuals (supervisory and non-supervisory), assigned responsibilities in this area, should address their specific responsibilities and span of control with enough detail to assure an understanding of these responsibilities. As noted in the corporate program a "motherhood" statement of responsibility is not acceptable.

Organizational Structure - The licensee should have an approved, up-to-date organization chart which defines the lines of authority and communications for the site personnel having responsibility in this area. The chart should show the lines of authority and communications from corporate management to the individual performing hands-on activities in the area. The chart should be distributed, or made available, to all affected site personnel?

Program Adequacy

Regulatory Requirements - The program shall meet the regulatory requirements relative to program content, and the program should provide instructions and guidance which will assure compliance with regulatory requirements including the following.

1. License.

2. Technical Specifications.

3. 10 CFR.

4. Approved Plans (e.g. QA, Training, Security, Emergency, etc.)

The program instruction and guidance should be sufficiently comprehensive to assure that an individual who is new to his position can understand his responsibilities.

Commitments - The program shall meet the commitments that the licensee made in the following documents.

1. FSAR.

2. Approved Plans.

3. Other commitments to guides, codes, and standards.

The program should provide instructions and guidance which will assure conformance to these commitments. Particular emphasis should be given to conformance with the codes, standards and regulatory guides to which the licensee has committed. As discussed in the "Regulatory Requirements" section, the program should be sufficiently comprehensive to be applicable to all experience levels of employees.

Additional Appraisal Criteria - The program should provide instructions and guidance for those licensee activities which are not covered by regulatory requirements and commitments but are a part of the PAB Management Model. The program instructions and guidance should be sufficiently comprehensive to be applicable to all experience levels of employees.

The licensee should have identified all of the regulatory requirements and commitments in this area and verified that they are covered by the program. A matrix of requirements/commitments versus program elements is preferred but other forms may be acceptable.

Program Change Control - The program should include provisions for implementing changes based on the following.

1. Changes in regulatory requirements.

2. Changes in applicable codes, standards, and guides.

3. Experiences at the facility.

4. Experiences throughout the industry.

Specific responsibilities should be assigned to an individual to stay abreast of the above areas and to initiate the appropriate program changes. The program changes should be subject to the same levels of review and approval as the original program. The program and implementing procedures should be periodically reviewed for adequacy, and review responsibilities should be established.

The program should require the use of a requirements matrix to assure that all applicable program elements (procedures, instructions, data sheets, etc.) are changed.

Information Flow - The program should specify sufficient flow of information to assure feedback of problems and status to management and to provide information to the lower levels. Management should be receiving the types of information which will inform them about the status of the system and operations, and will identify problems for which action is needed. The information should also enable management to analyze activities for adverse trends. The program should specify the types of information to be communicated to management and the trending to be done. The lower levels of the licensee's organization should, in addition to directives regarding routine activities, receive information regarding the following.

1. Changes in regulations, codes, standards and guides.
2. Findings identified in inspection reports (NRC), audit reports, and other surveillance activities.
3. Experiences at the facility and in the industry regarding this area.
4. Feedback from management reviews, audits and observations regarding problems in this area.
5. Planned activities in this area.

This information, which should be specified in the program, will make the individual more aware of this area and will improve his/her performance. The program should assign specific responsibilities for the distribution of this information, and it should identify the transmitting devices to be used. The program should also assign responsibilities for preparing any needed responses.

Problem Correction - The program should provide instructions and guidance regarding the documentation, follow-up, and correction of identified problems. The program should make it clear to all levels of licensee employees that they have responsibilities in identifying problems. The program can reference the Corrective Action Program for documenting and following problems, but it should address responsibilities for affecting corrective action, determining generic implications, and preparing any required reports. The program should assure that all identified problems, even those that are not reportable, are forwarded to higher supervision (above the foreman/shift supervisor level) for resolution and distribution.

A system in which an individual's immediate supervisor is allowed to make the final disposition of a problem identified by the individual is not considered adequate.

Program Review - The program should provide guidance and delineate responsibilities for management's periodic review and audit of the activities in this area. Management personnel of this area should be made aware of problems which are identified by NRC inspections, QA audits, and audits by other organizations such as the off-site review committee. The program should also address management's responsibilities for the periodic review of activity records and logs, and the periodic observations of activities in this area (tours). The managers should also be required to document review findings and observations to assure feedback to the individuals performing the activities. The program should specify the frequency of appropriate overview activities and require that identified problems be entered into the corrective action system.

Support Services - The program should provide guidance and responsibilities with regard to the support services which are needed in this area. Support services may include the following.

1. Training.
2. Maintenance.
3. Calibration and testing.
4. Radiation protection.
5. Procurement.
6. Quality control.
7. Quality Assurance.
8. Technical services and contracts.

The program may reference the administrative controls which have been established for any of the individual service areas, but responsibilities should be assigned for initiating and coordinating these services.

Program Appraisal - The program should provide instructions and delineate responsibilities for the periodic appraisal of the effectiveness of the program and the performance of the individuals in this area. The evaluation of the effectiveness of a program should go beyond the verification that the program has been fully implemented. The licensee should determine the goals and objectives of the program and determine if they have been met. This should require the performance of trend analyses on performance/effectiveness indicators.

A statement by a manager that he is aware of problems which occur and would recognize an adverse trend is not acceptable.

Program Implementation

Regulatory Requirements - The licensee shall implement that portion of the program for which regulatory requirements (License, TS, 10 CFR, and approved plans) have been established. Inadequacies in this area will result in items of noncompliance or unresolved items.

Commitments - The licensee shall implement that portion of the program which conforms to commitments which were made in the FSAR, QA Manual, Fire Plan, and other written commitments to the NRC. Inadequacies in this area will result in deviations or unresolved items.

Procedures - The licensee shall implement the procedures which have been developed under the program. Nonconformance to the procedural requirements will result in an item of noncompliance if the activities involved were safety related.

Additional Appraisal Criteria - It should be determined to what extent the licensee has performed those activities which are part of the PAB Management Model (checklists) but are not covered by regulatory requirements or licensee commitments.

Program Awareness

Position Description - The individuals interviewed should understand the responsibilities that have been assigned to them in their position/job descriptions. If the position/job descriptions are not specific, determine the individual's interpretation of the stated responsibilities. Also determine the intent of the non-specific statements from the manager who issued the job description. The two interpretations should then be compared.

Procedural Responsibilities - The individuals interviewed should understand the responsibilities that have been assigned to them in the procedures and instructions which have been issued. If the statements of responsibility are not sufficiently specific, compare the interpretation of the responsibilities by the individual and by the manager who issued the procedures.

Additional Appraisal Criteria - The individuals interviewed should understand their responsibilities for the activities that they perform for which there exists no procedural requirements or job description responsibilities. The extent to which the individual and his/her supervisor agree on these unwritten responsibilities and the adequacy of the verbal instructions given to the individual should be determined.

Qualification and Training

Qualification Requirements - The individuals assigned responsibilities in this area shall meet the qualification requirements of Regulatory Guide 1.8. For positions not covered by this guide, the inspector needs to determine the adequacy of the individuals experience. The licensee should have established qualification requirements in this area.

Initial Training - The initial training received by the individuals in this area should be in conformance with the guidance of Regulatory Guide 1.8; the requirements of the licensee's training program; and Appendix B, Criterion II. Training requirements should reflect the experience (or lack thereof) of the individuals. The required training should be specified in the training program and/or procedures.

Periodic Retraining - The individuals with responsibility in this area should receive periodic refresher training to maintain their proficiency. This retraining should conform with the guidance of Regulatory Guide 1.8; the requirements of the training program; and Appendix B, Criterion II. The retraining required should be specified in the training program and/or procedures.

Approved by ____________ ______
PAB Chief Date

Wayne D. Shafer

Statement of Professional Qualifications

My name is Wayne D. Shafer. I was born October 11, 1937 at Chicago, Illinois. I am employed by the U. S. Nuclear Regulatory Commission as an Inspection Specialist in the Performance Appraisal Branch (PAB), Office of Inspection and Enforcement. I am at present, the Acting Chief of PAB.

I graduated from Iowa State University in 1972 with a Bachelor of Science Degree in Mechanical Engineering.

I worked for Argonne National Laboratory at the Experimental Boiling Water Reactor from 1959 to 1967. I was a qualified Senior Operator and Assistant Shift Supervisor.

I worked for Ames Laboratory at the Ames Laboratory Research Reactor from 1967 to 1972. I was a qualified Chief Operator and Shift Supervisor.

I worked for Northern Indiana Public Service Company from 1972 to 1974. I was an Engineer in the Nuclear Engineering Group.

From October 1974 to the present, I have been employed by the NRC/AEC as a Reactor Inspector and Inspection Specialist. As a Reactor Inspector I was qualified to inspect Boiling Water Reactors (BWRs) and Pressurized Water Reactors (PWRs), and have been a project inspector at four BWR facilities. I was selected as an Inspection Specialist in November 1979. I have participated in five management appraisal inspections; one as a team leader. I have conducted one program appraisal inspection at five facilities.

I received from the NRC one Special Achievement Certificate (1978) and a High Quality Certificate (1980). I also received three Letters of Commendation from NRC Management.

James E. Gagliardo

STATEMENT OF PROFESSIONAL QUALIFICATIONS

My name is James E. Gagliardo. I was born August 31, 1937, at Breese, Illinois. I am employed by the U.S. Nuclear Regulatory Commission as an Inspection Specialist in the Performance Appraisal Branch (PAB), Office of Inspection and Enforcement.

I was graduated from the University of Missouri at Columbia in June, 1960 with a Bachelor of Science Degree in Chemical Engineering. I also received a Master of Science Degree in Nuclear Engineering in August, 1973 from the University of Missouri at Columbia. I am a registered Professional Engineer (Nuclear) in the State of Texas.

Upon the completion of my undergraduate degree I was commissioned as an Ensign in the U.S. Navy. From June, 1960, through January, 1964, my naval duties included two tours of duty on naval destroyers, one as an officer in the Operations Department, and one as the Engineering Officer. I attended the Navy's Nuclear Power Training Program from January, 1964 through January, 1965. I was then assigned to the staff of the Navy Nuclear Power Training Unit in West Milton, New York as a Leading Engineering Officer of the Watch (Lead Instructor). In this capacity I was responsible for the training and qualification of the officers and enlisted personnel assigned to the Training Unit for training. From November, 1965, through January, 1967, I was assigned as the Mechanical Division Officer of the Training Unit with the responsibility for the operation and maintenance of all reactor and secondary mechanical systems.

I was a full time graduate student and a part-time teaching assistant at the University of Missouri (Columbia) from January, 1967, through May, 1968. From June, 1968, through August, 1969, I was a full time instructor in the Nuclear Engineering Department at the University of Missouri.

From September, 1969, through July, 1974, I was employed as the Associate Reactor Supervisor and the Reactor Supervisor at the University of Missouri Research Reactor Facility in Columbia, Missouri.

From August, 1974, to the present, I have been employed by the NRC/AEC. I was a Reactor Inspector through April, 1978, and my duties included the performance of inspection and investigations of power reactors in the operational and pre-operational testing phases. I was qualified to inspect Boilin Water Reactors (BWR's) and Pressurized Water Reactors (PWR's) and have been the principal project inspector for both types of reactor facilities. I was selected as an Inspection Specialist in the Performance Appraisal Branch (PA in April, 1978. I have been actively involved in the development of PAB's Management Appraisal and Program Appraisal methodologies. I have participat in four management appraisal inspections and was the team leader for two of the inspections. I was the Acting Chief of PAB from November 1979 through May 19, 1980.

Mr. Moffett. Our next witnesses are Dr. Shepard Bartnoff, president of Jersey Central Power & Light; Mr. Ivan Finfrock from the same company; and Douglas Turner, supervisor, health physics, Oyster Creek Nuclear Generating Station.

Gentlemen, please remain standing. As you know, it is the practice of this subcommittee to swear in all the witnesses.

Do you solemnly swear that the testimony you are about to give this subcommittee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. Bartnoff. I do.

Mr. Finfrock. I do.

Mr. Turner. I do.

Mr. Moffett. Dr. Bartnoff, I have welcomed you informally, but officially I would like to welcome you before the subcommittee. Thank you for your patience this morning.

As you heard me say to the other witnesses, your statement will be submitted, without objection, as part of the hearing record. If you would prefer, in the interest of time, to summarize you certainly may do that. It certainly would please the subcommittee.

If, on the other hand, you feel that you would like to read your statement, you have every right to do that.

Would you identify yourself again formally for the record and then proceed?

STATEMENT OF SHEPARD BARTNOFF, PRESIDENT, JERSEY CENTRAL POWER & LIGHT CO.; ACCOMPANIED BY IVAN R. FINFROCK, JR., VICE PRESIDENT, GENERATION, JERSEY CENTRAL POWER & LIGHT CO.; AND DOUGLAS TURNER, SUPERVISOR, HEALTH PHYSICS, OYSTER CREEK NUCLEAR GENERATING STATION

Mr. Bartnoff. Thank you, Mr. Chairman.

My name is Shepard Bartnoff. I am president of Jersey Central Power & Light Co.

With me today are Mr. Ivan Finfrock, on my right, who is vice president of generation of our company, and Douglas Turner, on my left, who is supervisor of health physics at Jersey Central's Oyster Creek facility.

We are appearing today at your invitation. We hope to assist this subcommittee in its inquiry on NRC's performance evaluation branch program.

I would like to request that our total statement be included in the record at this point.

Mr. Moffett. Without objection, so ordered.

Mr. Bartnoff. I will try to condense our testimony considerably in the interest of time. I will leave out those portions of the description of the company and the plant and so forth.

I will proceed directly to the investigation by the PAB team which occurred toward the end of last year.

As other representatives from the PAB team have told you, they put in some 752 inspection man-hours meeting with about 100 individuals, both in our corporate staff and our plan staff level.

All of this culminated in the report referred to before from Mr. Grier, the Director of region I, in January of this year.

In this report each of the 15 areas inspected by the PAB team was discussed in four parts: Documents reviewed, findings, observations, and conclusions.

The findings section identified items of noncompliance, deviations, or unresolved items. The observations included perceived strengths and weaknesses in our management controls over which, incidentally, there existed, to our knowledge, no well-defined regulatory requirement, and certainly no guidance.

There was the summary grading of our management controls: Good, average, or poor; a grading which was made in each case by the individual inspectors responsible for the areas evaluated.

Mr. Victor Stello, the Director of NRC's Office of Inspection and Enforcement, followed this up in a letter to us last February.

He requested that Jersey Central respond to the items of noncompliance, which had been identified in the PAB team's report and to include a description of actions taken to improve specified areas of management.

I have copies of our response to Mr. Stello's letter with me for the subcommittee and for the record. I believe they have been turned over to your staff.

Mr. **Moffett**. Without objection, they will be included as part of the record.

[See appendix 4.]

Mr. **Bartnoff**. At Mr. Stello's request, we met with the director of NRC's region I to discuss Jersey Central's corrective action. Jersey Central described its effort in the areas identified by the NRC as requiring improvement.

All commitments made by Jersey Central in our response to the PAB findings which were to have been fulfilled by now, have been fulfilled.

Let me talk a little bit now, having given you this background, with some comments that I might have on the inspection itself, comments which might enhance the usefulness of such inspections, both to the NRC and to licensees.

To begin with, J.C.P. & L. endorses the NRC's efforts to inspect its licensees and the activities of the licensees which reflect the quality of management's controls.

J.C.P. & L.'s management has, and uses, its own tools for performing such assessment and to have NRC's input as well can be, and has been, constructive.

There are, however, pitfalls to avoid. The PAB's charge, as we understand it, is to evaluate management—an inherently subjective exercise.

Further, the PAB evaluations are relatively new, and their techniques are evolving. As a result, they must be used with care.

We have reviewed the six PAB appraisal reports which are available to date to compare the PAB team's perception of Jersey Central's management controls, in contrast with other utilities' review.

This comparison was made difficult because of several factors. The PAB team effort at Oyster Creek was expanded considerably beyond the scope of other plants. Of the six PAB appraisal reports, Oyster Creek was the first and only report, to date, to provide a summary qualitative grade—poor, good, and so forth—of areas inspected.

There appear to be variations in the classification and the degree of severity of reported noncompliances. We do not have a document available to J.C.P. & L. which identifies NRC's standard PAB appraisal plan, its basis for identifying and classifying observations, and its method of data analysis.

Of the six inspectors who comprised J.C.P. & L.'s PAB team, only two had participated in prior similar inspections.

Keeping these difficulties in mind, we analyzed the observation sections of the reports which contain the most information. We eliminated one report because there were no observations in the report.

We eliminated another report because the observations were not classified as perceived strength, weakness, or an item of information only.

Of the four remaining reports, we analyzed them using the statistical approach.

The analysis showed us that J.C.P. & L.'s overall management control system appeared to be about as effective as that of the other managements evaluated.

For the other three reports, there was a total for all three of 645 observations. For us, we had 329, somewhat more than the average for the others.

The average number of weaknesses per inspection hour for the other reports was 0.34; for Jersey Central it was 0.18, approximately half as much.

This may have been a result of the fact that we have had more observations total.

The average number of strengths per inspection hour for the other three reports was 0.17; for us it was 0.13.

In fact, of the total number of observations for the other three reports, 35 percent were classified as information only, as compared with 30 percent for Jersey Central. In the area of observation classified as strengths, 21 percent were so classified for the other reports and 29 percent for Jersey Central.

In the area classified as weaknesses, 44 percent were so classified in the other reports as compared with 41 percent for our company.

So, you see, when it comes to the actual statistical data on this basis, we are right in the ballpark and, if anything, we are a little bit above the average of the other companies.

What have we been doing with this? Jersey Central has been using the PAB report in the same constructive manner in which we utilized our own internal reviews and other NRC reports to assist in identifying opportunities to improve the overall operation.

We are committed to taking those actions necessary to provide safe, reliable, and economical power.

With regard to the evaluation of the PAB reports, we have concluded that there are uncertainties involved in utilizing the PAB results for purposes of comparing the utility management control system and misleading conclusions may be drawn.

That program is a broad independent regulatory review of utility management controls and is a mechanism which can be utilized to identify both individual utility and industrywide opportunities for improvement.

Way back when I first came into industry, I was taught that thi was a very good euphemism for problems. There are no problem There are only opportunities for improvement.

Utilizing these opportunities, making sure that they are utilize should be the goal of the performance of that assessment branch the appraisal branch.

But when attempts are made to compare directly the results o one review against the other, then there is a big temptation, whic is even greater when the summary qualitative grades are assigne that misleading and incorrect conclusions can be drawn.

As the development of the PAB approach continues, we hav some recommendations to make which we feel should b considered.

One. Provide a basis for the identification and classification o servations. Some observations are classified as perceived strength or perceived weaknesses.

The basis of these perceptions is not documented in the apprais report. If the utility and if groups such as your committee are to b responsible for evaluating these comments, some indication of th methods and basis for establishing the perceptions must be indica ed to perform an evaluation realistically.

Two. Provide uniformity in performance of appraisal. We appr ciate that as the appraisal efforts continue, refinements will resu in the methods of conducting them, and of evaluating utilitie However, we recommend that if a uniform plan has not bee developed to date, standardization should be implemented as soo as possible.

Three. Make available the appraisal plan and methods of evalu ating data. This would facilitate the appraisal function at thos utilities which will be evaluated in the future and would facilita for utilities already evaluated the implementation improvements.

Four. Establish uniformity of documenting occurrences of no compliance. If the public perception of a utility's ability to mana is going to be based on numbers of certain types of occurrences, f example, items of noncompliance, then we recommend that a un form method for generating these occurrences and associated nu bers be developed expeditiously.

Five. Our last recommendation is an assessment of a utility interim corrective action of previously identified items. A unifo mechanism should be developed to provide consideration for prev ously identified items and of the utility's effort to resolve the

I am not suggesting that the severity of the problem can dispositioned away by talking about what we have done up to no However, the fact that the problem has been identified should recognized by the inspection, and interim measures and schedul for the resolution should be evaluated to assure their adequac

As an illustration, I use health physics. Mr. Turner was retain by Jersey Central in a consulting capacity in April 1979 to revie our health physics program, and he subsequently has been hired supervisor of health physics. There were problems noted by M Turner during his review, and examples are given in my testimon

A list of the problems was prepared; corrective actions we implemented by September of last year.

Additional areas were identified by the PAB team, and immediate steps were taken to correct these items. In fact, the PAB team reported, "It was apparent that the radiation protection program has improved considerably during 1979."

Another item, which is not in my prepared and submitted testimony, relates to an area that was discussed by this committee in the questioning of the previous witnesses—that of fire protection. There, as was brought out, we were engaged in a retrofitting, a supplementation of an existing fire protection system, and we were not behind schedule in this. We feel here, a little bit, that the citation that we had, the citation of an item of noncompliance, by the PAB team, was a little bit unfair.

The specific item referred to the fact that in some of the supporting U-bolts on the fire protection equipment, only one nut was present instead of two. This is so, but we should recognize—and apparently the PAB team failed to do so—that this was a system under construction, not completed, not behind schedule, certainly far even from the final inspection which we give all such construction to make sure that items such as the two nuts on the bolt instead of the one were present.

All I am trying to say is that it is important to consider not just the single evaluation but to factor in progress made over a longer timespan, giving recognition to improvements which have been made. We feel that this progress, this observation of things underway, is what reflects management's attitude in recognizing and taking corrective action, and this should be considered in any overall evaluation of management controls in the areas being evaluated.

Again, to followup on the PAB team report, we have provided a thorough, comprehensive response to that report and to Mr. Stello's letter. These documents were referred to earlier. Our report defines significant steps taken and to be taken and a schedule for them. It is our belief that we have been fully responsive to the concerns identified and that our program is satisfactory, and we believe that region I has recognized our response as such.

In conclusion, let me say that we are supportive of NRC efforts to identify for us, for licensee management, management weaknesses or potential weaknesses and management controls which may require corrective action, and we feel that our recommendation for improvements in the PAB team program are constructive. We strongly urge that they be implemented, and we appreciate the opportunity to provide our views to this subcommittee and help, we hope, in its investigation of this program.

Mr. MOFFETT. And we thank you for being here.

The Chair at this time recognizes the gentleman from New Jersey, Mr. Maguire.

Mr. MAGUIRE. Thank you, Mr. Chairmam.

Dr. Bartnoff, one of the things that particularly concerned me in reviewing the material for today's hearing was not just the degree to which there were deficiencies in the various areas which have already been identified and in which you have acknowledged in your responses there were deficiencies and indicated what actions you were taking et cetera, but the fact that the system for monitoring ambient radioactivity levels did not meet NRC standards, with the result that you and your people were not even aware of what the data were. If I understand the record correctly, how is it that we had a situation where there was no regular, NRC approved, constant monitoring of radioactivity levels inside in the plant? How did we have such a situation present in the first place?

Mr. **Bartnoff**. I think, Mr. Maguire, that it would be wrong to say that we had no procedure in place and that radiation levels and radiation exposures of people were not being monitored. I think it would be more accurate to say that perhaps our procedures—not perhaps, we know now that our procedures were not as good as they could have been, and we have taken strong efforts to try to improve them.

One of them has been the hiring of people—more people and better and more competent supervisors over those—and we know we still have a way to go, but we strongly feel that the situation is under control and will continue to improve.

Perhaps Mr. Turner, who is fairly new in the company, having been our employee for less than a year, but who comes with a strong background in this particular field before he was with Jersey Central, may have something to add.

Mr. **Maguire**. Mr. Turner?

Mr. **Turner**. I believe the statement that there was no radiation coverage or measurements of radiation in the plant is erroneous. We have records back to day one of the plant of what exposure each person received.

Mr. **Maguire**. I think I said "no constant monitoring." Is that accurate?

Mr. **Turner**. No, that is not accurate.

Mr. **Maguire**. There was constant monitoring of radioactivity and of exposures for workers inside the plant at all times?

Mr. **Turner**. Yes.

Mr. **Maguire**. Fine; I am glad to know that.

On page 13 of attachment A of your response to Mr. Stello, under "constant air monitors," perhaps I am misreading this but it says—and these are your words—"The item of non-compliance is correct, as stated. Constant air monitors were only used as an indicator of increases or decreases in air concentrations in the past." And then:

> Corrective action taken—all functioning constant air monitors have been calibrated; all nonfunctioning constant air monitors have been tagged "out of service" until repaired and calibrated. Full compliance was achieved November 1979. Portable grab samples were obtained for purposes of determining compliance with regulations. Constant air monitor calibration procedure 795.3.009 was approved November 28, 1979.

It certainly appears from that that we were not getting regular and consistent data until those changes were made. Is that correct?

Mr. **Turner**. I do not believe so. There is a continuous air sampler which counts the radioactivity in the air and gives you a continuous measurement of that activity.

Mr. **Maguire**. But we did not know, I take it from this analysis, that we were getting accurate data.

Mr. **Turner**. That is correct. However, we were taking portable air samples during the work and prior to any work starting and during the work, and measuring air concentrations in that manner, which was perfectly acceptable.

Mr. **Maguire**. You are telling me that air monitoring was going on constantly. What I am saying, based on this record, is that it appears as if the equipment was not functioning properly in all respects, and that they were not properly calibrated to give you the data that you needed to have. Is that what was, in fact, the case?

Mr. **Turner**. We could not use the continuous air monitor for legal results, and we used portable air samples for legal results.

Mr. **Maguire**. It does not help to have a system that is operating if the system, in fact, is not giving you accurate data on a constant and continuing basis. Is that not correct?

Mr. **Turner**. That is correct.

Mr. **Maguire**. And, in fact, we had a situation where we were not getting the constant, continuous, accurate data with respect to worker exposures. Is that correct?

Mr. **Turner**. No. We were getting portable air samples which were legal and were correct.

Mr. **Maguire**. So you had in place an intermittent portable sampling approach because of the fact that the constant monitoring system was not, in fact, functioning at full efficiency. Is that correct?

Mr. **Turner**. That is correct.

Mr. **Bartnoff**. This is an excellent example, Mr. Maguire, of what I would refer to earlier in my initial response to your question—places where we needed improvement. We were covering the radiation exposure in the air and to people, any time people were present, with instruments that met regulation.

However, the instrument which was installed which, as you point out, was useless if it did not operate properly, was not operating properly. It is a program of the correction of this type of thing that we have been engaged in, and we are still engaged in. We have not done as much as we intend to do, but I believe we are on schedule on what we propose to do in this area.

Mr. **Maguire**. I thank you for that explanation; it does resolve what appeared to be a factual difference as I began my questioning. I think we have now determined the nature of the deficiency and I am sure we would agree that we want this system to function as effectively as possible.

The analysis of Director Thornburg, however, with respect to the radiation protection question included this sentence, and I would like your comment on it: "The chronic and repetitive nature of the items of noncompliance"—with respect to radiation protection—"raises serious concerns about the effectiveness of the actions taken by Jersey Central Power & Light Co. to correct noncompliances brought to its attention in previous notices of violation." Would you comment on that?

Mr. **Bartnoff**. I think there is a lot of truth in that statement. I also think that statement goes back in history over a period of time during which we had been making improvements.

Of all the areas in the plant, I think the one that from a management point of view I would consider the area where we were least successful in proceeding as rapidly as we would have liked to, has been this area of health physics radiation protection. I could give reasons; I could give excuses; this is not the place for it. We did have some problems in getting the proper people in there as managers, determining that they were, in some cases, not the proper people, acting as rapidly as we would have liked to. And this has been a continuing thing.

As I pointed out, though, we believe that in all cases where there was protection of individuals, of workers involved, we have maintained the records that are required, and that we should, whether we are required to or not, maintain. And it is one of those areas which I specifically chose in my prepared remarks to point out as one where I feel that, rather than being dinged for it, we might have been given some credit for management's attention, perhaps belated, but still management's attention to a problem.

Mr. **Maguire**. I thank you for your very candid response.

I might say, Mr. Chairman, that I think these hearings that you are conducting are enormously important if there is going to be a future for nuclear power in this country. It is precisely this type of issue that we are examining in these hearings—the day-to-day, week-to-week, month-to-month assurance that the highest standards are being met with respect to safety and radiation exposure, and the possibility of mechanical or human breakdowns that might result in accidents. I just want to pause briefly to congratulate you on holding these hearings because I think it is this set of issues that is extraordinarily important, and I suspect Dr. Bartnoff would agree with that.

Mr. **Bartnoff**. I certainly would; I certainly would. In fact, I think the whole program of inspection is one that is of great benefit, not self-serving to our own company and our own industry, but nationally.

You know, if we never did anything that did not quite meet regulations—there would be no need for inspections. We look on them, and have sometimes looked with a little bit of annoyance at the fact that an inspector comes around. Region I people are very diligent. They have announced inspections; they have unannounced inspections. But, all in all, it is the only way that we can get a truly unbiased group coming in to audit our work, to tell us where we are deficient, and they are not hesitant in telling us so. But we value this.

Mr. **Maguire**. I welcome that statement.

One of the problems, of course, is the fact that the American public is skeptical—increasingly skeptical—about the assurances that have been given to it by Goverment and by representatives of the nuclear power industry with respect to the safe operation of nuclear powerplants when, in fact, we have a history that has been punctuated by the Browns Ferry fire, by TMI, and by apparently false signals at Oyster Creek that a triple low had been reached.

Additionally we have a record compiled as a result of the thorough kind of inspection that I think the public has called for, and we find that evaluations are being made of average performance, of poor performance, in many categories.

I wonder if you would comment on "average," "poor," and "good." I would certainly think that to restore public confidence and for there to be a future for nuclear power in this country, we would have to have at least good ratings, if not excellent ratings, in all of these categories. Can we stumble along with "average" and "poor" ratings?

Mr. **Bartnoff.** I would say, Mr. Maguire, that in the nuclear industry we cannot stumble along even with a rating that is "good" if this is a rating based on comparisons with industry in general. We have got to be better than industry in general.

What bothered me a little bit about the particular PAB report we are discussing here is that when we go into the report, which was not a comparison of the nuclear industry or of our company with industry in general, we cannot quite tell what it was: Was it a comparison of our company with other companies? If so, we go into the body of the report; we make some statistical analyses; we make analyses of what we read. We did not have the benefit of the actual experience of auditing and inspecting other companies, but we did see the PAB report on other companies.

We find it difficult to find out why we were, in certain categories, rated as poor relative to the others. Nowhere do we have any basis of standards, and this is what I was trying to say in my prepared remarks, for such a judgment. Nor do we find it in our reading of the PAB reports.

Perhaps it is there; perhaps we are looking at it with too biased a view, being only one particular company that was the first that had the "good," "fair," and so forth, ratings.

But, it would be most helpful to us if we had the basis for it. Since the basis is unknown to us, and we feel is unknown to your committee, is unknown to people in general, we think it most unfair and not constructive to have ratings of this nature, and we even find it—I came in this morning, and somewhere I had a copy of a prepared news report which was accurate. It was an accurate news report put out by this committee which stated that the PAB report "was highly critical of the management of the plant."

Well, I do not know how highly critical it was because I have got no basis for comparison, and I think that this is something which a committee such as yours can take action on and reassure the public in a manner analogous to what was done in Pennsylvania when Governor Thornburg had the Union of Concerned Scientists come in and evaluate the proposal for the venting of krypton from Three Mile Island. We need some group which is unbiased and perhaps even biased a little bit the other way to give this reassurance which you say is so sorely lacking.

But I find nothing in the PAB reports, themselves, other than the conclusions, which would lead to any kind of statements that would be nonreassuring—I may have lost myself in that sentence somewhere, but the idea I have is that I see nothing in that report that need alarm the American public.

Mr. **Maguire.** Let us go back for a moment to the radiation protection. I do not think this depends on a comparative analysis, and I appreciate your characterization of some of these areas as opportunities for improvement. Of course, that begs the question of whether or not we now have dangers.

But going back to radiation protection, as I understand it, you were given notice with respect to civil penalty in January 1979 in relation to shortcomings in the radiation protection area, and you paid a fine.

Then the PAB team came in October and found that you were still not in compliance in that area. Is that correct?

Mr. **Bartnoff**. I think technically that is correct. I would like to elaborate on that a little bit.

I do not want you to have the impression that we had not been doing anything about radiation protection. At the time we had the citation and we even paid the civil penalty, and actually a little bit before that civil penalty was imposed, we had had outside consultants come in to do the kind of appraisal of our health physics program that we thought should be done by an outside unbiased group. That group was as blunt in its appraisal to us as the quotations that Chairman Moffett quoted from another group that had also done an independent audit in another area.

We took these lessons very much to heart. At the time of the civil penalty, we had already begun making major changes in our entire approach to health physics, with respect to numbers of people, qualifications of people, and of management. We did not, as I have pointed out before, make all of the changes as quickly as perhaps we should have. Sometimes your judgment of people is not as good as it should be. But we were doing it.

At the time the PAB people came in, there were still these so-called areas for improvement, but we were on a schedule that was correcting below-average performance. We are still on that schedule.

If a PAB team were to come in today, they would not give us a perfect score. I think the difference between what is in place now and what has been in place for the better part of a year is a much more conscious awareness on our part of what needs to be done and a more defined and active program in doing it.

So, again, I point out that we were not in any kind of a program where there were deficiencies that would cause unnecessary exposures to people. Our record on exposures to people is not as good as in a pressurized water reactor plant, and no boiling water reactor plant is that good. It is not as good as the best amongst utilities. But it is getting better all the time.

Mr. **Maguire**. To the best of your knowledge, are you in compliance now with the radiation protection requirements?

Mr. **Bartnoff**. To the best of my knowledge, we are in compliance. If I felt, sitting here, that there was an area where we were not in compliance, I would take immediate action to do something about it.

Mr. **Maguire**. Of the 12 infractions and 2 deficiencies noted by the PAB team last October, how many were you aware of or were your managers aware of prior to being inspected by the PAB team?

Mr. **Bartnoff**. Mr. Finfrock, can you answer that question? You are much closer to the actual operation of the plant?

Mr. **Finfrock**. I am going to try to answer that for you, if I can.

Mr. **Maguire**. Clearly, you were aware of problems in radiation protection.

Mr. **Finfrock**. Yes, sir.

Mr. **Maguire**. How many of the others were you aware of?

Mr. **Finfrock**. I believe the only area of which we were not aware dealt with the calibration of the radiation monitor in what we call the new liquid solid rad waste system.

Mr. **Maguire**. That is the item which we previously discussed?

Mr. **Finfrock**. Yes.

I was not aware of the fact either, sir, that only one nut instead of two were on the U-bolts. But in the areas——

Mr. **Maguire**. But that was during construction, and your inspectors would have discovered that prior to operation?

Mr. **Finfrock**. By the time the system was completed, sir, and turned over to the plant for operation, it would have been inspected, and all of that would have been properly completed.

I believe we were aware of all of the other areas and that we were actively in the process of developing programs for corrective action, such as the maintenance area, the health physics area, the in-service inspection program; they were areas that we were aware of.

We were aware of some concerns in the quality assurance program as a result of an independent analysis that we had made by an outside consultant, and we made all of that information available to the PAB team in the process of their interviews, to the extent that we knew it at that time.

Mr. **Maguire**. There have been instances where there was a lack of anticipation of the problems. I think the word "unintentional" is used in some instances in your own filing?

Mr. **Finfrock**. Yes. I am not quite sure what exactly you are referring to, sir.

Mr. **Maguire**. Obviously, there were some areas you were working on, but there are also some other situations which you identified as areas where there had been oversight, unintentional. One such area relates to electrical jumpers, tags, and so on.

How we can assure the American public that workers are not going to be unnecessarily exposed or that accidents which, as we are painfully aware, can happen are not going to happen as a result of oversights by the licensee?

Mr. **Bartnoff**. What we do is, to the best of our ability, have constant vigilance plus non-man-required safety systems plus the best training we can get. And I heard in the discussion before we were here to present our statement what one of you gentlemen referred to as the generic problem which we recognize and which we try to solve by instituting our own training programs and perhaps to which Mr. Diekamp can address himself tomorrow when he talks about our new organization in the nuclear power field.

We will always have some slip-ups. The problem, however, is the way we can reassure the public, and that is to make them feel that, yes, we may have a spill of liquid, we may have a valve that sticks, but the consequences of this will not result in an accident which involves injury to the public and where the probability of injury, even to the people working in the plant, will be minimal. The worst accident we have had in the plant since its operation has been when one of the workers fell down an open manhole and severely broke his back; it is a very sad case.

Mr. **Maguire**. That is measurable in the immediate time frame; other problems, such as worker radiation exposure do not necessarily result in immediately recognized health problems. We always have that problem of defining long-term effects as opposed to short-term effects.

Mr. **Bartnoff**. Yes. But we believe, based upon what doctors and people in this field tell me—and this is a field that has been widely studied for more years than most areas of medicine—that our exposures to people are not such that they will result in these long-term effects.

Have we ever exceeded permissible limits, Ivan? If so, it has been minimally and on very few occasions.

Mr. **Finfrock**. I think there was one case, Dr. Bartnoff, in 1970, of a small exposure over the quarterly limit. Since then, there has been none, to my knowledge.

Mr. **Maguire**. Of the 12 infractions and 2 deficiencies uncovered last October, Mr. Finfrock, on how many of those are you now in compliance, in your judgment?

Mr. **Finfrock**. All of them.

Mr. **Maguire**. You knew about most of them, except for the air monitoring problem, prior to last October. Why were you not in compliance on those that you knew about when the inspectors showed up in October? Why had steps not been taken immediately to eliminate whatever deficiencies you knew about at the time? Or is the answer that you were working on all of them?

Mr. **Finfrock**. That is part of the answer. Every time we determine on our own or as a result of an inspection that there is an item that is not in compliance, we correct that as rapidly as we can.

There are areas, as a result of the PAB team inspection, which involved rather extensive programmatic changes and development that just simply cannot be done overnight. But all of those commitments that we have made in our response to the PAB team report have been completed as of this date.

Mr. **Maguire**. Thank you, Mr. Chairman.

Mr. **Moffett**. The Chair recognizes the gentleman from Minnesota, Mr. Stangeland.

Mr. **Stangeland**. Thank you, Mr. Chairman.

I am wondering if you can tell us, for the record, how many items were noted in the 15 areas inspected, 7 of which were identified as having poor management controls—how many individual items need improvements or corrective actions?

Mr. **Bartnoff**. Do we have a list of all of those?

Mr. **Finfrock**. I am not quite sure I understand your question. Out of the poor items?

Mr. **Stangeland**. No. Fifteen areas were inspected; seven were found to have poor management controls. No, we are talking about areas; what I am talking about is items within those areas—the 15 areas inspected. You must have had some defects in those other 8 areas, but they were not of a significant volume or degree that they called for poor management descriptions. Maybe you can submit that for the record. I would suspect that it is in your response to Mr. Stello, but I have not been able to review that to find them.

Mr. **Bartnoff**. I must confess, the number is not at the top of my head, nor do I know that we counted them up to see what the total was.

Mr. **Stangeland**. Can you tell me what percent have been corrected? It is difficult to tell that if you do not know how many items there are.

Mr. **Bartnoff**. But we do know this: That of all the items in our responses to Mr. Stello's letter and in our discussions with NRC, where we had made a commitment that we could do certain things by certain dates, as I pointed out in my direct testimony, everything we have promised to have done by now has been done. But we will go through that whole list for you.

Mr. **Stangeland**. Have your corrective measures been judged to be acceptable and adequate to the PAB team and the NRC?

Mr. **Bartnoff**. To the best of my knowledge, the PAB team has not been back to look, nor have they reviewed what we have done. Nor do I know that inspection has been made by region I people to verify the claim I have just made for you.

Mr. **Stangeland**. Will that be done? Will they be back to inspect what you have done?

Mr. **Bartnoff**. Based on experience, the inspectors from region I will be there; they may not be there tomorrow, but in a reasonable time they are there to inspect what we do.

Mr. **Stangeland**. In the seven areas that were identified as having poor management control—the fire prevention, the training of nonlicensed personnel—how much of the report of poor management controls could you tell me were a result of increasing safety measures recommended by NRC? In other words, the state of the art perfecting the safety measures has increased in the 10 years of your operation, so you were in compliance initially. But were there any of these that were the result of strengthening safety measures by NRC?

Mr. **Bartnoff**. There were a number of such. Of course, the fire protection one is the big one that has been mentioned. There was general plant security that was greatly strengthened. You would not recognize the original plant security force if it were onsite now as even being a guard force.

There are areas in actual hardware that have been changed; there have been requirements for the addition of new detectors. Mention was made before of some uncertainties in the determination of a water level during the transient which we had which resulted in a nonscheduled shutdown of the plant. This has been remedied so that we now have this.

We constantly are required by NRC to make changes based upon major and minor lessons learned in other plants. How many of these there have been—I guess we have never counted them up, there have been so many of them.

Mr. **Moffett**. Would the gentlemen yield?

Mr. **Stangeland**. Yes, I would yield.

Mr. **Moffett**. Do they give you time to make changes?

Mr. **Bartnoff**. Yes; in general, they do. What happens is that we get a report of some occurrence in another plant. Sometimes it says,"For your information only;" other times it requires an inspection on our part to see if we have a similar situation and if we have, to correct it. Other times, it is a directive which says, "You shall do this and this. Report back to us." And there is usually a time limit.

Mr. Moffett. It is not too shocking, is it, that as the state of the art evolves there would be new standards and revised standards? And even though it is a burden to you, I do not hear you saying that you are quarreling with that process, necessarily—the evolution of revised standards and changes—or that you have specific problems with the time schedule that you are given.

Mr. Bartnoff. No. If we have specific problems with the time schedule—and occasionally this occurs—we go to the region I people who are our monitors, and we discuss this with them.

Sometimes, for example, there is a hardware change that is requested which will promote safety, which does not say that the present system is unsafe; it just says, "This will make it safer;" and it can only be implemented during the plant shutdown. And we are 2 or 3 months from a scheduled maintenance shutdown—a shutdown for refueling or for maintenance. We will talk with them, and we will make a commitment—next time the plant is shut down, we will do this; "Is this satisfactory?" And, in general, something is worked out.

Mr. Moffett. OK, Doctor, all I was getting at here was this. I thought Mr. Stangeland's questions—which are very important—were in some way perhaps going to leave the impression on the record that your major problem stems from the fact that you have this evolving set of regulations and somehow there is an unfair aspect to it, but I am glad you cleared that up.

Mr. Bartnoff. This certainly does mean that there are times when the plant cannot operate. But we have no quarrel with it. Nor do I recall any major interferences. Certainly we want to know these things too.

Mr. Stangeland. I would like to make it clear, Mr. Chairman, that I do not quarrel with the NRC adopting new, more stringent regulations; I think it has to be done. I think as the state of the art evolves it will be done, and it should be done. But because of the problem in fire prevention protection, I was just wondering if there were other aspects here that, perhaps, were in progress of being protected yet these people got a bad mark because they were in the process of complying with the regulations. I want all the information possible on this because I think we have a responsibility; I think it rests with us more than anyone else to assure the public that everything is being done—no stone is being left unturned—to make this a safe form of power.

Dr. Bartnoff, how long have you been with Jersey Central Power & Light?

Mr. Bartnoff. I have been with the GPU organization for a little over 12 years now. Although I was on the books of Jersey Central, I started out actually as manager of nuclear fuels for the entire GPU system. Then when the service company was formed in GPU, I transferred to that and moved from my position. I went through several positions—manager of engineering, director of environmental affairs—and then ended up as president of Jersey Central about 7½ years ago—September 1972.

Mr. Stangeland. What is your doctorate in?

Mr. Bartnoff. Physics. As a matter of fact, I learned this morning that both Chairman Moffett and I are graduates of the same university—Syracuse—though not in the same class. [Laughter.]

Mr. **Moffett**. I thought we probably were not in the same class, but I knew there was something great emanating from the witness table—I was not sure what it was; that explains it.

The gentleman has concluded?

Mr. **Stangeland**. Yes, Mr. Chairman.

Mr. **Moffett**. I would like to ask Mr. Finfrock a couple of questions, if I might.

First of all, as I said earlier, we do appreciate your coming here, and especially the extensive time you have already spent discussing this PAB report and the whole question of the Oyster Creek management with the subcommittee staff.

There is one area that this PAB report says has shown substantial improvement, and that is the physical security where you were rated as good by the PAB.

I believe you told our staff that the original security group for the plant when it opened in 1969 literally consisted of an elderly watchman and his dog. Is that correct?

Mr. **Finfrock**. I am not sure I added the dog, but it was an elderly watchman.

Mr. **Moffett**. Who added the dog? Did the staff add the dog, or was there a dog? It is very important.

Mr. **Finfrock**. I believe the elderly watchman did have a pet that he kept around there; I would not consider him part of the security, however.

Mr. **Moffett**. I see.

By contrast, the staff informs me now that you really have an elaborate system of metal detectors, body searchers, and a series of electronically controlled doors and gates that protect the plant from unauthorized access. And that is terrific, and I think we need to applaud that progress over the last 10 years. What is disturbing, however, is the indication that only strong enforcement action seems to obtain this kind of result.

I do not mean to be unfair at all, but I think, to some extent, in looking at the record here, we see that even in this area where you were rated as "good," it took the payment of an $8,000 civil penalty in June 1976 for failings in this physical security area. Is that unfair? Is that an inaccurate characterization, Mr. Finfrock?

Mr. **Finfrock**. Yes; I think it is, sir. I am, of course, familiar with the civil penalty in which a newspaper reporter slipped by the guard while he was doing something else. That was prior, however, to the time we had completed the installation of the system that we have in place today. I certainly cannot tell you that it is absolutely impossible for that to ever happen again; the probability, however, is rather low with several millions of dollars, many people, and lots of sophisticated equipment that we are using for the physical security of the plant. Does that answer your question?

Mr. **Bartnoff**. If I could interrupt, I think it is unfair to say that it was the civil penalty that induced us to put in the system, which I think was the gist of your question. That system largely had been put in and was still being completed at the time the incident with the newspaper reporter occurred. And, indeed, the system then was good enough so that the particular reporter only got past an outer gate and never got into the plant itself.

Mr. Moffett. OK; that is fair enough, and that is one of the reasons you are here—to make sure that we understand your view of what has happened.

But what I am getting at here is this. I would like to believe that what we have here is a situation where this utility, once it becomes aware of the need for certain kinds of improvements, moves expeditiously to make those improvements. And perhaps that is the current atmosphere; I hope that it is. I hope that is the current attitude of the management.

Looking at the record, however—and you were here earlier when we had Mr. Shafer and Mr. Gagliardo before us—time after time, I would ask, for example, "Did you not find there was a significant backlog in the number of items that had gone uncorrected at the plant even after the quality assurance audits had discovered them?" They said, "Yes." We asked about the consultant's report—the Rockville, Md., outfit—and whether that corroborates their findings. We asked about whether, despite constant efforts by region I, the Jersey Central management still did not implement its quality assurance program. They said, "Yes."

I said, "Does it not appear to be the case that the management does not appear to be able to solve problems in a timely fashion once they have found them?" They said, "Yes." We asked about the maintenance area—another area where the PAB team found poor management control, and the fact that you, as the utility, had done an internal report on the problems in the maintenance area. We asked if that corroborated their findings.

And I said, "So, here again, Jersey Central knew it had problems with work being done by its maintenance staff for months prior to your inspection, but the problems remained."

What I am trying to do here—and I think what all the subcommittee members are trying to do—is this: this goes well beyond New Jersey, well beyond your plant, and well beyond your management. You happen to have been in the position of being near the front of the line as far as this PAB team is concerned. And you may, in some ways, view this as your misfortune. It is probably very good, in a sense, because you can be ahead of the game in terms of knowing what to expect and perhaps even contribute to a better PAB process. You have made some suggestions which we certainly will take seriously and I think they will, too.

But my point here is this. You can argue—we have all done—with the grade you get in school, and say, "Gee, I really did not deserve a C+; I should have gotten a B+ or something." We have all been subjected to that feeling that it was unfair, but here today we have had the teachers—just to carry the analogy further—actually explaining the grade. Yet you say, "Well, this is not a proper conclusion by the subcommittee"—I think you were reading from the news release where the subcommittee noted that PAB had been highly critical of the management. You disagree with that—but it seemed highly critical to me.

And then we go back to this response—the March 17 letter to Mr. Stello from your company which is in response to Mr. Stello's letter of February 20 regarding the findings of the inspection conducted by NRC Performance Appraisal Branch. It says, "Enclosed is attachment A, the responses to each of the items of alleged noncompliance."

When I read through that, Doctor, I kept finding this statement: "The item of noncompliance is correct as stated." And then you would go on to elaborate on the particular item. Has this document been made a part of the record?

Mr. HAGER. Yes, it has.

Mr. MOFFETT. It is a part of the record, and I want to make sure that your complete statement is there so that I am not going out of context. But if you look through this document—the utility's response—you note, "Fire doors: the item of noncompliance is correct, as stated," and so forth, and so on. It is not as though you are arguing.

Mr. BARTNOFF. I think what I would argue is this. Based on this group of items, I would think it would be unfair to categorize management of the company as poor.

You just mentioned the fire doors. What was the situation? There were some fire doors which were propped open during a maintenance procedure when the letter of the regulation says they should be shut. We had a man stationed there all during the procedure. So, technically, we have to say that this noncompliance is correct. What we have done since, of course, is instructed all our people, "Don't do it this way, by stationing a man there. Just station the man, but still make sure there is no prop there."

But it is this kind of item that is rather typical of the list, and I would submit to you that on the basis of this type of item to categorize the company as having poor management is going a little far.

Now there are others where I will not make that same claim—the whole area of radiation protection. I think in retrospect, going all the way back to 1974 or 1975, we could have been a bit more diligent. In the whole area of quality control and quality assurance, which, incidentally, goes back historically to the years 1972 to 1975 and where we engaged in the crash program, which I think has met the approval of NRC, is one where, in those years, we might have been a bit more diligent. But that is past history, and there are places now where I think we are being diligent.

As I have said in our direct testimony, to go back and disregard things that are going on now may be a little bit harsh—giving us that characterization. Indeed, as Mr. Finfrock pointed out, most of the items that are on the list are items which we brought to the attention of the PAB team.

Mr. MOFFETT. Fine. But do you think it is terribly unfair for the PAB to conclude, as they apparently did, as they said here under oath and as they told the Commissioners, that with regard to management control—of the handful of utilities they had looked at—they would certainly not put you at the top of the list? Was that unfair?

Mr. BARTNOFF. Mr. Moffett, again, you are saying, "Here are the teachers who have been in looking at these others." Here we are, one poor student, trying to learn from the experience. I am saying that I would feel a lot more comfortable with that evaluation if I had some basis that was described to me, used by the PAB team in coming to its conclusion.

When the NRC inspector comes into our plant to do a review of any area of our operation, he comes in with a document; he comes in with a book that describes what he is going to look for, how things should be done, what will be in violation if it is not done that way.

We are familiar with the contents of that book. Therefore, when that NRC inspector comes in and says, "You are not in compliance," there is no question about it.

Here we are dealing with some subjective opinions that are drawn. We did not have a PAB team that came in with a similar document that described for us a basis for an evaluation. Nor do I know that one such exists now. Certainly, if one such exists, there was no input to that document from the utilities or from others outside of the utilities, both pronuclear and antinuclear, which should have been done.

So I can only answer you from the point of view, again, of the analogy you used, of the poor little student who has got a look at his grade; and, frankly, I am complaining a little bit about it.

Mr. Moffett. OK.

For the sake of the record, and also for the sake of the subcommittee and the staff of the subcommittee which spent a great deal of time on this—they looked at so much in the way of material and documents that seemed to back up rather serious criticisms in several areas. The fire doors are not an example of the most serious area. And you are right to point that out.

But the radiation protection—as you noted—has been a serious problem.

Mr. Bartnoff. But I do not believe that quality assurance and quality control now is a serious problem.

Mr. Moffett. It is not now a serious problem?

Mr. Bartnoff. No.

Mr. Moffett. Fine.

Mr. Bartnoff. You know, last week in the middle of a shutdown, which is of great financial importance to our company, that shutdown was delayed for 2 days because our quality assurance people had some questions about a bolt that has to go into that.

Mr. Moffett. That is good.

I have one final point on this business of comparison. You gave us a rather elaborate statistical analysis of the PAB team's findings. If I understand what you are saying it is, first of all, that that team spent more man-hours of inspection time at Oyster Creek than at some of the other plants they have studied so far. And I think we agree with that. I take it from that that you believe there is a correlation between the amount of time spent on inspections at your plant—so many hours, in other words—and the number of problems discovered.

Mr. Bartnoff. I do think there is a correlation in two areas. One, they spent more time, but then they looked at more things.

Mr. Moffett. Fine. So the question, Doctor, is: As they go forward, might they find out that the other utilities are no better performers than you are—that longer inspections actually uncover more problems?

Mr. **Bartnoff**. I think you will find that, historically, there has been a close correlation in inspections in all plants between the hours spent and the number of deficiencies found.

Mr. **Moffett**. What I am saying is, maybe as they go forward we will find out that there are serious problems in some areas at other utilities. You see, we are trying to get a handle on this question of the capability of utilities to operate this technology. And we really do believe that both the Kemeny and Rogovin groups touched upon this and then went off and did other things—and we are not criticizing that.

But having become aware of the extent to which this has, in the subcommittee's view, been rather ignored territory, we are trying to get a handle on what the real situation is, and this presents us with an opportunity to look at that.

So, when you come forward with this analysis, "Well, we did not fare as badly percentagewise, and so forth," we are trying to decide whether, in fact, this idea that the longer you stay in a plant and the more you look at it, the more you find—whether that idea is a valid one; that is all. We are not arguing with it, but it seems to be your contention.

Mr. **Bartnoff**. I will repeat the remark I made to the Congressman from the congressional district that abuts on the one where I live, Mr. Maguire. We cannot be satisfied in comparisons with industries, in general, to have a report card that merely says good. I would recommend to you that I know that Mr. Diekamp, who is president of our parent organization, GPU, will have some description, at your invitation tomorrow, about some of the things we are doing in our own organization to concentrate on this question and improve performance.

Mr. **Moffett**. Let me ask about the radiation protection program for a moment. You, I think, referred to a consultant study done for Jersey Central in February 1979 regarding the health physics program. And you have been very candid in this area, and we are grateful for that. There were a whole litany of problems that have been evidenced with regard to the health area.

Mr. Turner, who, I recall, was originally with GE and served as a consultant to Jersey Central, is now onboard looking at this. He gives one the impression that you are moving in a positive direction. You said earlier you had problems getting the right personnel, and we were talking, as you probably heard, to the PAB people about this recruitment problem which is a real problem, I think.

At any rate, we had the problem of the inflatable seals where, apparently, the bottom line there was that workers were exposed unnecessarily to additional radiation. You can argue about the effect of it, but I think that was the bottom line—because of that problem.

We have been aware of the problem of, in Jersey Central's case, an isolation from the state of the art in health physics—in terms of its isolation from the rest of the industry—which perhaps came from litigation against the vendors, where you were cut off from others who could have told you more of what was available. Again, I am postulating this.

You had a problem of Oyster Creek lacking the grating that amounts to built-in scaffolding in the reactor area, as I understand it. So workers would have to spend additional time in high radiation areas to put up scaffolding and later take it down when the work was done.

The question of food and drink being carried around in contaminated areas was brought up as well as the question of contaminated tools. In some cases those were stored apparently in open trailers in the so-called "backyard" of the plant, and contaminated articles such as clothing were being buried in the backyard. I am just running through these things that, in the course of our investigation, we came across.

I ask, at this point: Do we have, No. 1, at Jersey Central now or at Oyster Creek, a radiation protection program in place that is satisfactory according to your own standards?

Mr. TURNER. I think so.

We recently examined the radiation exposure to workers. We have less radiation exposure during this major outage per person than we had in 1978. We showed a marked improvement there.

We have had one person that was in the higher range of the exposure compared to 198 in 1978. We have also had fewer radiation workers that did not receive any radiation exposure. So there were a lot more people exposed; there were 1,500 people exposed to radiation versus 1,200 in 1978, but yet the average manrem per person was considerably less.

We have whole-body counted all the people, and we are not seeing internal depositions, and we are not getting major contamination. So the bottom line is that I think we are running a safe program. We are improving, and I think the PAB team has said we have made significant improvements in 1979, and I think if they came back today they would say that we have made more significant improvements.

As an example, in our response to Mr. Maguire on the continuous air monitors, the PAB team response was that we calibrated continuous air monitors, and we went beyond that response and we purchased an additional 14 continuous air monitors for use. This was not a commitment to the PAB team, but it is an effort on our part to improve the program, and we are continuously reexamining and trying to improve.

Mr. MOFFETT. What about that consultant study that I mentioned that was done in February 1979 regarding the health physics program? They said, among other things, "Some priorities which have been displayed by management have led to the conclusion by many station personnel that the only goal is to turn out kilowatts. Due consideration must be given to the peace of mind and the well-being of the many individuals who contribute to the operation of the station." And the report goes on to note that a "paper program" has existed for several years to encourage employee suggestions about reducing radiation exposures.

That report seemed to conclude that essentially no action—in their words—had been taken on these recommendations. Can you give us a response with regard to employee suggestions and the relationship between management and employees with regard to radiation?

Mr. TURNER. Yes, if I might.

Dr. Bartnoff personally came down and talked to all the supervision at the station and emphasized the importance of radiation protection. We stopped all work on the refueling work for 1 week because of radiation protection. This was critical path work which is very expensive. I think that was very strongly emphasized by him.

The second part of the question was with regard to the suggestions on the ALARA program and reducing radiation exposure.

Some of the things are as follows. We have had a Roto-Rooter crew in to clean all the floor drains, which reduced the background in the reactor building. They worked for almost 5 months cleaning these floor drains. We have installed radiation shielding. We have put in containment so people did not have to wear respirators; we have put portable ventilation in so people did not have to wear respiratory protection.

Mr. MOFFETT. Are there plants where this is not being done? In other words, are you out ahead of the field, as far as you know?

Mr. TURNER. I think in some areas we are; in some areas we are catching up; but I think that overall we are doing very well. We have plans, and we have scheduled progress for some of this.

Some of the problems—we have the same problem as the NRC in trying to hire qualified people. The NRC is bidding against us as well as other utilities, and it does take a little while to hire permanent people. We are trying to make progress in that area as quickly as possible.

Mr. MOFFETT. OK. Thank you.

Does the gentleman from Minnesota have additional questions?

Mr. STANGELAND. Yes—just a couple of questions.

This has been touched on briefly, but the PAB report says there were personnel problems and morale problems. As a result of the report, and as a result of your actions, have those problems improved? Have they started to go away, or do you still have personnel and morale problems in the plant?

Mr. FINFROCK. My recollection, sir, was that on the question of a member of the PAB team you touched upon this and pointed out that in the report that was done for us by our own consultant, there was mention of a few people who just would not cooperate whatsoever with the quality assurance program. Let me tell you that that has been rectified.

Mr. STANGELAND. I have one last question. The inspection started on October 1, 1979, and concluded on November 8, 1979, and says that it was concluded by an exit interview with top J.C.P. & L. management. In that interview, were you able to discuss the various areas of noncompliance? Were you able, at any point, to have deleted from the potential report, through the interview areas, where they may have thought you were in noncompliance but, in effect, your discussions allowed you to be in compliance?

Mr. FINFROCK. I do not recall, sir, that we deleted very much, if anything. There was one particular area, I believe, in the exit interview, and I was there for that exit interview, where the PAB team did not seem to perceive that we had policies on radiation protection in a lot of programs. I think that was perhaps an oversight on their part because they did exist, and we pointed that out.

If there were other areas that may have been taken away that they talked about, I am not too much aware of what they were.

There was one situation in the fire protection installation that had to do with some concern at the exit interview in connection with the amount of threads that were screwed into couplings. That did not show up in the final report. That is the only one I can recall.

Mr. **Stangeland**. Were there any steps taken from the beginning of the report to the end of the report that were enhancements in the report as a result of your efforts—enhancements in your procedures?

Mr. **Finfrock**. As a result of their efforts, do you mean, sir?

Mr. **Stangeland**. I am wondering if there were any criticisms at the beginning of the report that your procedures corrected prior to the conclusion of the report.

Mr. **Bartnoff**. Did we get any suggestions from the PAB team while they were doing the inspection that caused us to make changes, improvements, and so forth?

Mr. **Finfrock**. While they were doing the inspection, they did uncover—and it is documented in their report—some items of noncompliance that were brought to our attention in the process of the inspection, and where at all possible they were immediately corrected.

Mr. **Stangeland**. I want to thank you, and thank you for some excellent testimony. I trust and hope that you are sincere in trying to improve the procedures, trying to improve the investigative procedures of the NRC and the PAB team so that we can assure our people that we can provide them safe electrical power through nuclear generation. Thank you very much for appearing.

Mr. **Moffett**. Mr. Finfrock, I just have a couple more questions of you.

I would like to know something about the current outage at Oyster Creek. Before we let you go, can we get a brief description of the current status of the plant?

Mr. **Finfrock**. I did not talk to the plant this morning, but as of yesterday we had completed the installation of the reactor vessel head and were preparing to perform the hydrostatic test that is the next step in the evoluation of returning to full power.

Mr. **Moffett**. What was the original date scheduled for resumption of operation after the outage began?

Mr. **Finfrock**. The original schedule was for 10 weeks beginning, essentially, the first of January.

Mr. **Moffett**. Why was that schedule not adhered to?

Mr. **Finfrock**. A few problems came down the road that we did not anticipate. The major concern that developed in the process of the inspection had to do with our observation of cracking in the course brace spargers inside the reactor vessel. This was not anticipated, and it involved a continuous inspection effort, a large amount of analysis of the results of that inspection, presentation of our plans for repair to the NRC, which has subsequently been approved. That repair involved the installation of nine mechanical restraints around the cracks on the sparger. You might like to keep in mind that that is under some 55 feet of water and all done remotely. Most of the time that was lost in that repair endeavor.

Mr. **Moffett**. How much of this has to do with the age of the plant? This is quite an old plant as far as commercial reactors go. We have one in Connecticut, as you know, that is quite old and has a good performance record—the Connecticut Yankee.

Mr. **Finfrock**. It certainly does.

Mr. **Moffett**. How much of this has to do with age? There were press reports, as I recall, that suggested that there was some resistance on the part of Jersey Central to the suggestion that the plant would have to be decommissioned due to problems such as this. I do not have any idea of the extent to which these problems result from the age of the plant, but to what extent is age a factor here?

Mr. **Finfrock**. I am not a qualified metallurgist, sir, but we have had a look at this situation with the core spray sparger cracking. Some of the best people in the country and even a man from Germany looked at it. And I would tend to conclude that they do not understand it either. I cannot relate it to the age of the plant. The cracks we have observed—although we cannot prove it—could very well have been there for quite some period of time, and it was only with the more refined inspection techniques that we used this year that we saw them.

Mr. **Moffett**. The NRC is requiring the so-called "backfitting" of older plants, though, are they not, to meet improving standards—both industry and NRC safety standards?

Mr. **Finfrock**. Yes, to the extent that they deem it appropriate to do so.

In connection with the core spray spargers, we are permitted now to operate one more fuel cycle with the mechanical restraints that we have, and then we must either replace the spargers—and we certainly do not object to doing that—or replace the sparger system with some other kind of system.

Mr. **Moffett**. What I am getting at here is that the NRC has specifically begun to look at the older plants, and they have a special inspection program now, as I recall.

Mr. **Finfrock**. Yes, that is the program that we refer to as the SEP program—the systematic evaluation program.

Mr. **Moffett**. Yes, and Oyster Creek is being inspected in this way.

Mr. **Finfrock**. Yes, it is. It is one of 11 plants that is involved in that program.

Mr. **Moffett**. But you are confident that Oyster Creek, as one of the older plants, can be operated safely by today's standards for significant additional periods of time?

Mr. **Finfrock**. Yes, sir.

Mr. **Moffett**. We could not be comfortable, however, could we, going back to the standards that were thought to be acceptable in, say, 1969? You would not feel comfortable, would you, going back to 1969 standards, based on what you know now?

Mr. **Finfrock**. I think there are areas in the design of the plant, in the criteria that have been established for the design of the plant that have evolved over the years that have enhanced the safety of the newer stations. That does not mean, in my mind, that an older plant like Oyster Creek is in any way unsafe. A new car today is better than a Model T Ford. I do not mean to imply that

Oyster Creek is a Model T Ford, but there are areas, and I think these will be developed as a result of the NRC's review of these older plants, whereby I think backfitting will be required for those things, if you will, that are backfittable, but there may be areas where this simply cannot be done.

One of the principal concerns that we have in that regard is that we spend money in those areas where we will get the biggest benefit in terms of safety, and we have not quite completed yet what we call a probabalistic safety analysis specifically for Oyster Creek, much like the Rasmussen report. The purpose of that is so that when we do begin to consider backfits, we can put the money where the biggest benefit comes.

Mr. **Moffett**. Thank you.

Gentlemen, thank you very much. Dr. Bartnoff, we appreciate your being here and your patience, spending so much time with the subcommittee today.

I think many of the suggestions you have made will be helpful, and I hope that much of what we suggest will have a positive impact as well. Thank you very much.

[Mr. Bartnoff's prepared statement follows:]

STATEMENT
OF
SHEPARD BARTNOFF, PRESIDENT
JERSEY CENTRAL POWER & LIGHT COMPANY
Before the
SUBCOMMITTEE ON ENVIRONMENT
ENERGY AND NATURAL RESOURCES
COMMITTEE ON GOVERNMENT OPERATIONS
HOUSE OF REPRESENTATIVES

May 28, 1980

Chairman Moffett, members of the Subcommittee on Environment, Energy, and Natural Resources of the House Committee on Government Operations, my name is Dr. Shepard Bartnoff. I am President of Jersey Central Power & Light Company, which is headquartered in Morristown, New Jersey. With me today are Ivan Finfrock, Vice President - Generation of Jersey Central and Douglas W. Turner, Supervisor of Health Physics at Jersey Central's Oyster Creek Nuclear Power Plant. We are appearing today to assist the Subcommittee in its oversight inquiry into the Nuclear Regulatory Commission's Performance Appraisal Branch program.

In these prepared remarks, since we haven't appeared previously before this Subcommittee, we will first provide some background information on our Company and the Oyster Creek Nuclear Plant. Next, we will trace from our vantage point the NRC Performance Appraisal Branch's review of the Oyster Creek Nuclear Plant conducted late last year including the NRC reports which ensued, our response, and the present status of related activities at the Plant. Finally, the statement will focus on some specific suggestions the extent of which is to improve the usefulness of the Performance

Appraisal Branch Reviews.

Jersey Central Power & Light Company (JCP&L) is one of three operating utility subsidiaries of the General Public Utilities Corporation. The other two are Metropolitan Edison Company and Pennsylvania Electric Company which operate in Pennsylvania. JCP&L provides electricity to approximately 700,000 customers or 2,000,000 people in New Jersey within a service area that extends from the New York State border on the north to Ocean County on the south, and from the Atlantic Ocean to the Delaware River. JCP&L serves approximately 43 percent of the land area of New Jersey. JCP&L owns generating stations and facilities with an installed generating capacity of 3375 MW.

The Oyster Creek Nuclear Plant is the only nuclear power plant which JCP&L operates. It is located in Ocean County, New Jersey, 22 miles inland from Barnegat Bay. Its 1416 acre site is approximately 60 miles south of Newark, 9 miles south of Toms River, and 35 miles north of Atlantic City. The Plant is a General Electric 1930 Mwt boiling water reactor, authorized for construction by the AEC in 1965, and authorized to operate in 1969. Over its 10-year operating history, it has provided economical, reliable energy for our system; and over that period has been the subject of routine AEC and NRC licensing and inspection reviews.

In August 1979, we first learned of the NRC's Performance Appraisal Branch. JCP&L was notified that a Performance Appraisal Branch team from the NRC's Office of Inspection and Enforcement, hereinafter referred to as the PAB Team, had been selected and directed to conduct an inspection at JCP&L's Corporate Headquarters and at the Oyster Creek Nuclear Plant during the months of September, October, November and December 1979.

The PAB Team consisted of six individuals with Mr. Wayne D. Shaffer as the Team leader. They met with over 100 individuals on JCP&L's corporate and plant staff during segments of the months of October and November. Their effort involved 752 inspection man-hours and was culminated in a report JCP&L received from Boyce H. Grier, Director, Region I, dated January 4, 1980. Each of the fifteen areas inspected by the PAB Team was discussed in their report in four parts: Documents Reviewed, Findings, Observations and Conclusions. The Findings documented identified items of noncompliance, deviations, or unresolved items. The Observations included perceived strengths and weaknesses in JCP&L's management controls for which there exist no well-defined regulatory requirement or guidance. A summary grading of JCP&L's management controls of "good," "average," or "poor" was made by the individual inspectors responsible for each of the areas evaluated.

Victor Stello, Director of NRC's Office of Inspection and Enforcement, in a letter of February 20, requested that JCP&L respond to the items of noncompliance which had been identified in the PAB Team's inspection report. In addition, JCP&L was requested to include a description of actions taken to improve specified areas of management. Our response to Mr. Stello's letter was submitted March 17, 1980. I have copies of that submittal with me for the Subcommittee and for the record.

Mr. Stello also requested that JCP&L representatives meet with the Director of the NRC's Region I to discuss JCP&L's corrective action. This meeting was subsequently held on April 29 with representatives of Region I at which JCP&L described its efforts in the areas identified by the NRC as requiring improvement. While some longer term items at that time were unresolved, and as of today some fewer number remain, all commitments made by JCP&L in our response to the PAB findings which were to be fulfilled by now have been. With this background, I would like to turn now to focus on specific factors of the PAB Team's inspections and associated conclusions which may enhance their usefulness to the NRC and the licensees.

To begin with, JCP&L endorses the NRC's efforts to inspect the licensees and their activities which reflect the quality of licensee management controls. JCP&L's management has its own tools for performing such assessments,and to have NRC's input as well, can be constructive. There are, however, pitfalls which every effort should be made to avoid. The PAB's charge as we understand it is to evaluate management, an inherently subjective exercise. Further, the PAB evaluations are relatively new and evolving. As a result, they must be used with care and in conjunction with other measures.

We have attempted a review of the six PAB appraisal reports which are available to date. The purpose of this review was to attempt a preliminary comparison of the PAB Team's perception of Jersey Central's management controls in contrast to the other utilities reviewed. The performance of this review was made uncertain by several factors:

(1) The PAB Team effort at Oyster Creek was expanded beyond the scope at other plants to include radioactive waste shipments, environmental monitoring, and procedure review. This made direct comparison to other facilities in these areas impossible.

(2) Of the six PAB appraisal reports, the Oyster Creek report was the first and only report to date to provide a summary qualitative grade of areas inspected.

(3) There appears to be variations in the classification and degree of severity of reported noncompliances.

(4) We do not have a document available to JCP&L which identifies the NRC's Standard PAB Appraisal Plan, its basis for identifying and classifying observations, and its method of data analysis.

(5) Of the six inspectors who comprised JCP&L's PAB Team, only two had participated in inspections of the other five utilities.

(6) For the four reports, which had perceived strengths and weaknesses, JCP&L represented almost half, or 752 of the 1558 inspection hours.

Keeping those difficulties in mind, the only technique considered as useful appeared to be that of analyzing the Observations section of the reports because they contain the most information and therefore variations in classification would have the least impact on the overall conclusions. Utilizing this technique of evaluation eliminated one report because there were no observations in the report and another report because the observations were not classified as a perceived strength, weakness, or an item of information. Using the four remaining reports, a statistical approach was utilized using the observations presented in each report to develop, for example, the ratio of strengths or weaknesses and the percentage of weaknesses relative to the total number of observations in each report.

The results of this analysis shows that JCP&L's overall management control system appears to be as effective as the other reports evaluated. For the other three reports, there were 645 observations; for JCP&L there were 329. The average number of weaknesses per inspection hour for the other three reports was .34; for JCP&L it was .18, or approximately one-half the average. The average number of strengths per inspection hour for the other three reports was .17; for JCP&L it was .13. Of the total number of observations for the other three reports, 35 percent were classified as information — only 21 percent as strengths and 44 percent as weaknesses; for JCP&L they were 30 percent—29 percent, respectively.

JCP&L intends to utilize the PAB report in the same constructive manner in which we utilize our own internal reviews and other NRC reports to assist in identifying opportunities to improve our overall operations. JCP&L is committed to taking those actions necessary to provide safe and economical power from our Oyster Creek Nuclear Station.

With regard to the evaluation of the PAB reports, JCP&L has concluded that there are uncertainties involved in utilizing the PAB results for the purpose of comparing the utility management control systems, and misleading conclusions may be drawn. The PAB program is a broad independent regulatory review of utility management controls and is a mechanism which can be utilized to identify both individual utility and industry-wide opportunities for improvement. This should be the goal of the PAB.

When attempts are made, however, to directly compare the results of one review against others -- a temptation which is greater where the summary qualitative grades are assigned -- misleading and incorrect conclusions can be drawn. As the development of the PAB approach continues, JCP&L has several recommendations which should be considered:

(1) Provide a Basis for the Identification and Classification of Observations - Some observations are classified as perceived strengths or perceived weaknesses. The basis of these perceptions is not documented in the appraisal report. If the utility is to be responsible for evaluating these comments, some indication of the methods and basis for establishing these perceptions must be indicated to realistically perform an evaluation.

(2) Provide Uniformity in Performance of the Appraisal - During the review of the reports, it is noted that there are differences in inspection scope, in the manner of conducting the

appraisal, and to some degree in classifying either a specific item or a given activity. It is appreciated that as the appraisal effort continues, refinements will result in the methods of conducting and evaluating utilities. However, it is recommended that if a uniform plan has not been developed to date, standardization should be implemented as soon as possible.

(3) Make Available the Appraisal Plan and Methods of Evaluating Data - If a uniform appraisal plan and method of evaluating the data have been developed, we recommend that it be issued for public review. If such a document does not exist, we recommend that it be developed and issued for review and comment. This would facilitate the appraisal function at those utilities which will be evaluated in the future. It would further facilitate the utilities' implementation of benefits which can be derived from this effort.

(4) Establish Uniformity of Documenting Occurrences/Noncompliances - If the public perception of a utility's ability to manage is going to be based on numbers of certain types of occurrences (e.g., items of noncompliance), then it is recommended that a uniform method for generating these occurrences and associated numbers be expeditiously developed.

(5) Assessment of a Utility's Interim Corrective Action of Previously Identified Items - A uniform mechanism should be developed to provide consideration for previously identified items and the utility's effort to resolve them. It is not suggested that the severity of any problem be dispositioned away; however,

the fact that a problem has already been identified should be recognized by an inspection and interim measures and schedules for total resolution should be evaluated to assess their adequacy. These efforts in the Health Physics are illustrative.

Mr. Turner was retained by JCP&L in a consulting capacity in April 1979 to perform a review of the Health Physics program at Oyster Creek. He has subsequently been hired by JCP&L to be the Supervisor of Health Physics.

There were generic problems noted during Mr. Turner's review of the existing program. Oyster Creek's Health Physics Department was not aware of some of the current state of technology being used by other nuclear power plants. For instance, inflatable main steam line plugs were being used at other nuclear plants while Oyster Creek was using mechanically expandable main steam line plugs. Also, Mr. Turner instituted the requirement for having local clothing change areas, instead of a central change area, for potentially contaminated work, thereby reducing the likelihood of spreading contamination within the facility.

A list of programmatic problems were identified, and corrective actions scheduled by July 1979. The corrective actions were implemented by September 1979. Additional areas needing attention were identified by the PAB team in the fall of 1979, and immediate steps were taken to correct these items. Also, it was recognized in the PAB Team's report that "it was apparent that the Radiation Protection Program had improved considerably during 1979." In responding to the PAB Team findings, a detailed program or planned changes in the Health Physics was submitted.

best copy available

It is important to consider not just a single evaluation but to factor in progress made over a longer time span, giving recognition for improvements which have been made in the programs. We feel this progress, which reflects management's attitude in recognizing and taking corrective action, should be considered in the overall evaluation of management controls in the areas being evaluated.

In conclusion, JCP&L is supportive of the NRC's efforts to identify for its licensees management weaknesses or potential weaknesses in management controls which may require corrective action. To be effective in this area, which by its very nature is subjective, the evaluator must have at his disposal clear guidance by which to perform the inspection and meaningful criteria by which to assess his results. A requirement to draw summary qualitative judgments exascerbates the potential for too subjective results; but, to the extent it is deemed necessary, the summary judgments must be applied in a uniform manner from one inspector to another. Finally, a perspective in any assessment of management should be provided through recognition of the dynamics of management. Where improvement is apparent, it should be acknowledged; where there is ignorance of a weakness or an apparent worsening situation, it too should be pointed out.

JCP&L has provided a thorough, comprehensive response to the PAB Team report and Mr. Stello's letter. It defines significant steps taken and to be taken and a schedule for them. These were provided to the NRC on March 17 and reviewed with them on April 29, 1980. It is our belief we have been fully responsive to the concerns identified and that our program is satisfactory.

We appreciate the opportunity to provide our views and hope it assists the Subcommittee in its investigations of the NRC's Performance Appraisal Branch program.

Mr. MOFFETT. Our next witnesses are Mr. Boyce H. Grier, Director of Region I of the NRC, and Eldon J. Brunner, Chief of Reactor Operations and Nuclear Support Branch, region I, NRC.

Gentlemen?

Please remain standing and raise your right hand.

Do you swear to tell the truth and nothing but the truth, so help you God?

Mr. GRIER. I do.

Mr. BRUNNER. I do.

Mr. MOFFETT. Gentlemen, on behalf of the subcommittee, I would like to officially welcome you. We know that you have been here for the entire hearing and we appreciate that.

We will, without objection, make your entire statement a part of the record. We would like you to summarize it in the interest of time. We have looked at it.

If you will proceed, Mr. Grier. Identify yourself first and then proceed in any fashion you desire.

STATEMENT OF BOYCE H. GRIER, DIRECTOR, REGION I, INSPECTION AND ENFORCEMENT, NUCLEAR REGULATORY COMMISSION; ACCOMPANIED BY ELDON J. BRUNNER, CHIEF, REACTOR OPERATIONS AND NUCLEAR SUPPORT BRANCH

Mr. GRIER. Yes, sir. My name is Boyce Grier. I am Director of the region I office of NRC, which is located in King of Prussia, Pa.

With me is Eldon Brunner, who is Chief of the Reactor Operations and Nuclear Support Branch in region I.

The region I office has the responsibility, under the Office of Inspection and Enforcement, for the NRC program of inspection and enforcement of NRC licensees in the region I geographical area. This area is comprised of 11 States in the northeastern region of the country and the District of Columbia. It includes the State of New Jersey and the Oyster Creek facility which is the subject of this hearing.

Mr. Brunner is Chief of Reactor Operations and Nuclear Support Branch. He has responsibility for managing the inspection and enforcement program for all operating facilities and region I.

To summarize briefly region I's involvement in PAB inspection—I do not think I need to reiterate because a lot of it has already been discussed—we were notified of the inspection in August of last year. We coordinated activities between PAB and the licensee and region, providing PAB with requested information and documentation.

The project inspector, who is assigned to the Oyster Creek facility, did attend the exit interview that PAB had with the licensee.

Following the inspection, and in accordance with the procedures for PAB, the PAB inspection report was sent to region I for follow-up enforcement action. That responsibility is assigned to the region.

In the region we reviewed the report and the proposed item of noncompliance submitted by PAB. Based on this review, we concluded that the report warranted escalated enforcement action. Within the region, as regional director, I am authorized to take enforcement action at the level of issuing a notice of violation to a licensee. It identifies the items of noncompliance and asks for a response with respect to corrective action and a commitment as to when corrective action will be completed.

Enforcement action beyond the issuance of a notice of violation occurs from headquarters, the Director of IE, Mr. Stello. That is, he issues orders and civil penalties for higher levels of enforcement action.

We concluded that the PAB inspection warranted action from the headquarters level, so we forwarded proposed enforcement action from the region to IE headquarters.

The enforcement action subsequently was taken. Issuance of the letter by the Director of IE was made to Jersey Central on February 20, which included a notice of violation for the items of noncompliance identified. In addition, the letter asked for a licensee evaluation of management controls that PAB had identified as being poor and for a response with respect to corrective action that the utility proposed to take.

The response from the utility was received on March 17. The meeting with the region which was required by Mr. Stello's letter was held in the region I office on April 29.

Our evaluation of the response and the result of the meeting with them led us to conclude that the appropriate corrective action on the items of noncompliance has been committed to by the licensee and they have programs for improvement of management controls in the areas identified.

I might also note that we are recommending that two items of noncompliance be modified, one with respect to the U-bolts which was previously mentioned. We recommended that that item be withdrawn. The second was the item with respect to the fire doors, which we also recommended be withdrawn. That downgrades that particular item from the category of an infraction to a less significant category of deficient.

This is the regional recommendation. It has been discussed with PAB and they are in concurrence with our recommendations. The action will be taken from the headquarters level.

We will continue to inspect at Oyster Creek, verifying that the corrective action that is committed to is taken.

The other aspect involving region I was the region assessment report submitted by PAB to Mr. Stello. The assessment report was forwarded to the region on March 26. My response to Mr. Stello on the PAB assessment was contained in a memorandum dated April 29.

The five areas to which I responded I will summarize briefly. One was that the PAB assessment report was not discussed with the region before it was issued. I felt this was an inappropriate procedure. I have recommended to Mr. Stello that assessment reports of a region by PAB be discussed with the regional director before the report is issued, or, alternatively, that the regional director be given an opportunity to review and respond to a draft report before that report is issued. I believe that is an important improvement in the PAB procedures which will improve communications between PAB and the region.

With respect to the PAB conclusion that there had not been followup by region I with respect to the civil penalties that had been issued in January of 1979, that conclusion by PAB is not correct. There had been followup. There had been inspections. There had been meetings with the licensee. There had been an immediate action letter, all related to action which is a followup to the civil penalty in the health physics area.

PAB had based their conclusion on a review of records at headquarters and it is correct that we had not documented all of the followup action that we had taken. The record in this regard is being corrected.

The next area of comment was the question of whether or not region I had recognized management problems in all areas other than health physics. I think the records of our inspections and action taken shows that there were other areas that we had recognized of managment problems earlier at Oyster Creek—particularly the areas of maintenance and training.

In any event, the licensee responded in terms of what will be done to improve management controls in all of the areas that PAB identified as being poor. We will conduct followup inspections and verify that the licensee's commitments are met.

There are two other comments. One concerns a suggestion that the policy within region I for handling unresolved items needs to be reviewed. Unresolved items in our terminology has a specific meaning. When an inspector identifies an item as an unresolved item, it means that he needs additional information to decide whether or not it is an item of noncompliance or not. Apparently, the implication here was that they thought region I inspectors were identifying more items as unresolved than they should and that they could make a decision with respect to whether or not there was noncompliance without getting additional information.

In my review of this procedure within the region, I do not find that what we are doing is inconsistent with IE policy in this regard. Nevertheless, we will develop specific guidance within the region for handling unresolved items. Inspectors will be so instructed.

The PAB memorandum on the assessment report also indicates an apparent lack of coordination within the regional inspection program. The basis for that comment is not completely clear to me. I do not think it is supported by the PAB report. We do have defined responsibilities for project inspectors and for the specialist inspectors. We will reemphasize the need for coordination in guidance in these particular areas.

You particularly asked for my assessment of the PAB inspection program and the implications for the regional program. My views on this are as follows. I think it is clear that the Director of Inspection and Enforcement must have the capability for auditing field activities under his direction. We are a decentralized organization with five regional offices. We are in the process of instituting a resident inspection program which leads to even more decentralization within the regional offices themselves.

Therefore, I think it is essential that the Director of Inspection and Enforcement have an audit program to assure that the regional offices are implementing the inspection program as it is intended and in a uniform manner.

The PAB procedure, then, is a way of conducting an audit of the region and I think it can be effective. It should indicate the uniformity with which the program is being implemented by the regional offices. They should be able to assess regional offices' performance and provide information that would give some indication of the resident inspectors' objectivity. The question that is always raised in terms of the resident inspector who spends day after day on a licensee's site is whether or not he will maintain his objectivity.

I think the PAB program can be effective in achieving these objectives. I think they can conduct appraisals of licensee management controls.

I have some difficulty with their ability to rank licensees without establishing criteria and a definition for the rank.

Insofar as implications for the regional program are concerned, I think it can be looked at as a service to the regional director in terms of fulfilling an audit function that I need to have in terms of how the program under my direction is being carried out by the various groups, particularly the resident program. I also believe that the techniques that are being developed by PAB in terms of the ability to assess management controls are techniques that perhaps should be considered in terms of making them a part of the routine regionally based program.

I do not see any reason why these techniques cannot be carried out by inspectors from the regional office.

Therefore, what PAB is doing in terms of developing their program should lead to improvements in our overall inspection program.

I believe that concludes my remarks, Mr. Chairman. I would be glad, with Mr. Brunner, to answer any questions.

Mr. MOFFETT. Thank you very much, Mr. Grier.

The Chair now recognizes the gentleman from Minnesota, Mr. Stangeland.

Mr. STANGELAND. I thank you.

Mr. Grier, at the time of the inspection of Jersey Central were there two NRC resident inspectors at the plant?

Mr. GRIER. No, there were not.

Mr. STANGELAND. Have they been placed there since the inspection?

Mr. GRIER. That is correct.

Mr. STANGELAND. Who arranged that? You said an inspector arranged for the PAB team to come in.

Mr. GRIER. The way the program has been carried out before the resident program was implemented has been to assign what we called a project inspector from the regional office. This is an inspector who is in Mr. Brunner's branch who inspects operating reactor facilities.

The project inspector had principal responsibility for inspecting at Oyster Creek. He was region-based but was the project inspector for Oyster Creek. He was the one who was involved in liaison with the PAB inspector. In other words, he was from the regional office.

Mr. STANGELAND. Did he at all follow the PAB team or did he just provide the liaison to get them in there and then returned to wherever his base of operations was?

Mr. **Grier**. I believe he just performed the liaison function and attended the exit interview at the conclusion of the inspection. He did not participate in the inspection.

Mr. **Stangeland**. It is your responsibility to inspect the Jersey Central plant. Why could you not have been a part of that exit interview?

Mr. **Grier**. You mean, personally?

Mr. **Stangeland**. Yes.

Mr. **Grier**. I could have but I chose to rely on the project inspector for that function.

Mr. **Stangeland**. What I am trying to get at is the communications problem that you have. Why is it there, and how can it be avoided? I gather that PAB seems to be critical of the function or the operation of the regional system and I think we would want to know all of the facts as to how we resolve that. It seems to me that the two have to work pretty harmoniously.

I guess, in a way, there is an adversarial relationship if the PAB team is directly under the Director of Investigations and Enforcement. You are a part of that team as well.

Mr. **Grier**. Yes. My comments on communication were particularly with respect to the assessment of the regional office, which I felt should have been preceded by discussions with the region prior to issuing the report.

Mr. **Stangeland**. Have you looked at the PAB suggestions for improving management decisions for the future of the PAB inspection program—the consolidation into a single office or keeping the branch dispersed, placing it in a position which is independent of the functional divisions of IE?

Mr. **Grier**. Yes, sir. I am aware of those.

Mr. **Stangeland**. Would those proposals improve the communications program or would they make it more difficult to communicate and cooperate?

Mr. **Grier**. I believe that management of the PAB inspection program requires consolidation of PAB in a single location. You might say that that leads to poorer communication but at least it does indicate the need for communication between the groups.

Mr. **Stangeland**. I would expect—correct me if I am wrong—that ideally we will now have two inspectors at every nuclear plant under the regional director, who, in turn, is under the Director here in Washington.

Mr. **Grier**. That is correct.

Mr. **Stangeland**. Those two in-house inspectors will contact you and say, "Hey, we have a problem in this plant and I think we need a PAB team in here."

Mr. **Grier**. There is one other part of the program that I think you need to understand. There will also continue to be a region-based inspection program in various areas such as health physics.

That part of our program is carried out by the radiation support section. That continues to be regionally based, so that aspect of the program is conducted from the region.

Physical security is also a section of the program that remains in the region. The in-depth inspections in physical security will continue to be conducted from the regional office.

There are other sections—nuclear support, engineering support—we will continue to have inspections at facilities conducted from the regional office in addition to the resident inspections. These provide two principal functions. First, they will provide assistance to the resident if he needs specialized technical assistance. If he feels that there is a problem based on his day-to-day observations in the health physics area he can call upon assistance from the regional office.

In addition, there will be continued oversight from the region in the various functional areas.

Mr. **Stangeland**. Would you say the PAB team's responsibility is somewhat twofold—a very careful, in-depth analysis of the operation and management of a nuclear plant and an analysis of the regional system and how it is working with regard to protecting the health and safety of the public?

Mr. **Grier**. Yes. Those are the functions, I believe.

Mr. **Stangeland**. That is where the problem in communication comes in. They are coming in to inspect that plant but they are also there to analyze how well you are doing your job as regional director.

Mr. **Grier**. That can lead to problems of communication.

Mr. **Stangeland**. Would you say that that is a correct analysis of their responsibility?

Mr. **Grier**. Yes.

Mr. **Stangeland**. As you see it?

Mr. **Grier**. As I see it. That is correct.

Mr. **Stangeland**. I am interested in your conclusion and I think you apparently concur with the management of Jersey Central when you say that you are not convinced of the ability of a PAB team to grade or rank the controls. You do not see a necessity for that ranking. If we are going to clean up the nuclear generating industry, we cannot give everybody grade A's.

Mr. **Grier**. Another approach in my view would be to set higher standards and whatever the standard is to achieve excellent performance, we would expect everybody to meet that standard.

Mr. **Stangeland**. Maybe Mr. Maguire will get into this when he starts to question you since I think he alluded to the danger or the possibility of a Federal inspector becoming an Uncle Tom. Do you see that kind of danger for somebody who more or less becomes a tool of the management and whitewashes what the management is doing?

Mr. **Grier**. I think that is a danger that we have to be alert to. Initially, when we embarked on the implementation of the resident program we planned to put only one inspector on a site. We have now, this year, modified that to two inspectors per site. I think having two inspectors there lessens the danger of loss of objectivity.

There are other things which can be done that I think will provide the regional director with indications of loss of objectivity. I talked about the region-based inspection program which continues, so that we have inspectors that will continue to go out relatively frequently from the regional office and will have an overview of what the resident has been doing. The immediate supervisor of the residents will visit the sites regularly and review the program.

Those are the things within the regional office that I think should give us an indication if we have a problem of objectivity.

Then, too, the completely independent effort by PAB should also provide input in that regard.

Mr. STANGELAND. How many plants under your jurisdiction in region I have a resident inspector?

Mr. GRIER. At this point?

Mr. STANGELAND. Yes.

Mr. GRIER. We have, I believe, 13 sites that presently have an inspector in residence. Of the operating sites, there are a total of 18 sites to be manned.

Mr. STANGELAND. How many traveling inspectors do you have that go out from your office to monitor resident inspectors?

Mr. GRIER. If you look at the total office, I have about 75. Not all of those are involved in the operating reactors program. Perhaps as many as 60 are involved in various aspects——

Mr. STANGELAND. Do they make it a practice to make a regular tour of the plants or do they just go occasionally? How long does it take you to have them out in the plants? How often do they get around to the plants?

Mr. GRIER. The regionally based inspection program is a defined program which requires inspections in the functional areas with a certain frequency—once a quarter, once a year, and so on. That is the way that program is carried out.

Mr. STANGELAND. Are you meeting those requirements?

Mr. GRIER. Not completely because of limited resources and the impact of implementation of the resident program. We are not fully meeting the presently defined program.

Mr. STANGELAND. Are the onsite inspectors capable to inspect those areas where the traveling inspectors review, or are the traveling inspectors looking at areas that the onsite inspectors are not qualified to inspect?

Mr. GRIER. They are not qualified for in-depth inspections in the areas, let me say. However, they will be inspecting in areas such as physical security, for example. Let us say we have a nuclear engineer who is assigned as a resident at a site but he goes in and out of the plant every day. He will be able to give some indication of how well their physical security program is going.

He has knowledge of radiation protection principles and procedures and in his tours through the plant he should be able to indicate whether or not there are problems in the health physics area. However, to do an in-depth inspection, to look at the overall radiation protection program and procedures, the calibration and instrumentation and that aspect, we will continue to do those parts of the inspection program from the regional office.

Mr. STANGELAND. Thank you. I have no other questions, Mr. Chairman.

Mr. MOFFETT. Mr. Grier, thank you once again for being here and also, just as importantly, for both of you having made the time available to discuss these matters with the subcommittee staff. We appreciate that.

As far as the number of reactors that you inspect regularly and the number of inspectors that you have are concerned, you have about 25 reactors in your region. Is that right?

Mr. Grier. Are you talking about sites? I believe that presently there are 22 sites, counting the ones that are under construction.

Mr. Moffett. How many inspectors do you have?

Mr. Grier. Do you mean total inspectors? I believe it is, as I indicated, 115 but not all of them are involved in inspecting reactors. Perhaps as many as—I am counting resident inspectors with the 115 number.

Forty of those will be residents, leaving 75 regionally based and perhaps 60 of those involved in some phase of the reactor program.

Mr. Moffett. This is a region that, of course, for the last year has carried the enormous burden of the crisis and aftermath of the accident at Three Mile Island.

Mr. Grier. Yes.

Mr. Moffett. Earlier today we made reference to a memo directed from you to Mr. Stello, dated April 29, 1980. In that memo you made another point I think is worth quoting, regarding the impact of the TMI accident on the resources of region I.

I quote from you:

> I am not sure the full extent of this impact is recognized. During a 26-week period, March 28 to October 1, 1979, the eight health physicists assigned to the Radiation Support Section of the Branch spent 134 man weeks at TMI. Additionally, during the same period the entire Branch staff devoted 467 man weeks to TMI. This has undoubtedly affected our ability to follow up promptly on the civil penalty of January 1979 against Oyster Creek and to keep current on documentation.

Now this is an important point, it seems to me. This drain on region I is by no means over. Is that right? There is a lot more work to be done.

Mr. Grier. Yes, but we have increased our staff and permanently assigned personnel to Three Mile Island.

The impact referred to here was that we were providing full-time inspection coverage at Three Mile Island. That, of course, continues but we now have people there permanently. So, while we are not completely staffed to our ceiling in the health physics area, the situation is better than it was.

Mr. Moffett. It is fair to say, is it not, that during 1979—at least in part because of the TMI problem—your region just could not do its job properly with regard to all of its reactors?

Mr. Grier. In 1979, yes, sir.

Mr. Moffett. Yes, that is right.

Let me call your attention to another memo from you dated July 21, 1978, directed to Harry Thornburg, an assistant to Mr. Stello.

Without objection, that memo will become a part of the record at this point.

[The material follows:]

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

July 21, 1978

MEMORANDUM FOR: H. D. Thornburg, Director, RCI, IE

FROM: Boyce H. Grier, Director, RI

SUBJECT: REVISED INSPECTION PROGRAM (AITS F10804F1)

This memorandum is in response to yours of June 30, same subject. The enclosed list of candidates includes all of our licensees in the order of recommended inspection sequence. This list is not, nor should it be construed to be, a ranking of licensees by performance. For several reasons, which we will be glad to discuss with you, we feel that it is inappropriate to launch the PAT inspections on that basis. We have previously expressed our views on this point.

We are uncertain of the Regional manpower required for preparation for and accompaniment on these inspections. You are aware that Region I presently has insufficient experienced manpower in the RO&NS Branch to complete the routine inspection program on the required schedule. Additional planning and inspection time for our Project Inspectors to accommodate PAT may require further delays or cancellations of inspection modules. Therefore, it is requested that the initial PAT inspections of a Region I facility be scheduled for six months hence when we expect to have sufficient manpower to meet minimum program requirements.

It is not clear which "documents and procedures" are believed to be available in the Regional Office. Licensee procedures can be obtained, but we do not maintain them on file in this office. Please do not consider these comments as negative toward the initial PAT inspection. It is just that we are not aware of any of the program details, the inspection format, or what materials are desired.

We feel very strongly that participation by Regional inspectors is necessary to complete meaningful PAT inspections, and we look forward to meeting with your staff for the selection conference. I am sure we can reach an agreement on the proper priority which must be established between Regional inspections and PAT inspections.

Boyce H. Grier

Boyce H. Grier
Director

Enclosure:
As stated

H. D. Thornburg, D/RCI ENCLOSURE

LIST OF CANDIDATES

Vermont Yankee
Three Mile Island 1 and 2
Pilgrim
Peach Bottom
Millstone 1 and 2 (after October 1978)
Indian Point 2
Salem 1 and 2
Calvert Cliffs 1 and 2
Nine Mile Point 1
FitzPatrick
Indian Point 3
Oyster Creek
Beaver Valley 1
Ginna
Haddam Neck
Maine Yankee
Yankee Rowe

Mr. Moffett. Your memo indicated some initial concern over the direction of the new inspection program that has come to be known as the PAB program. You said then that: "Region I presently has insufficient experienced manpower in the Reactor Operations and Nuclear Support Branch"—that is Mr. Brunner's branch, right?—"to complete the routine inspection program on the required schedule."

Now since you feared that the PAB program could require further manpower and even cancellation of some of your inspection program, you requested a delay of any PAB inspections in your region for 6 months, until early 1979, when TMI occurred, when you had expected "to have sufficient manpower to meet minimum program requirements."

Do not these memos that you have written tell us that you do not have enough manpower, in our own view, to properly inspect the reactors in the Northeastern United States as you are supposed to do?

Mr. Grier. Yes. That is the indication.

Mr. Moffett. It is true, is it not, that when the PAB team made its assessment of the region I performance, based on its findings at Oyster Creek, that the PAB team concluded that certain inspection modules had not been completed for Oyster Creek in 1979 and that proper completion of all the required inspections last year would have detected many of the problems that had not been fully brought out by region I's prior inspections?

Mr. Grier. I believe that is PAB's conclusion. Yes, sir. That is PAB's assessment.

Mr. Moffett. My reading of those documents is that region I had not detected all of the problems at Oyster Creek, although the TMI burdens brought on you may well have contributed to that failing.

Let me move to another point you just made in your statement. You noted that while you believe region I followed up adequately on the civil penalty in the health physics area, you admitted, I think, that your own records did not show what had been done.

Mr. Grier. That is correct.

Mr. Moffett. You said, and I quote from your statement:

> The record of region I followup activities was deficient and a number of activities were conducted but not documented for the record. Action is being taken to assure completeness of the record.

And you promised to have that by June 1.

Mr. Grier. Yes.

Mr. Moffett. First of all, would you be willing to send us material next week when it is completed?

Mr. Grier. Yes, sir. I will.

Mr. Moffett. And, without objection, it will become part of the record.

[See appendix 5.]

Mr. Moffett. I think, even more important, if I understand what you are saying here, is that you do not always keep a complete enforcement history on paper regarding each reactor, do you? I believe, Mr. Brunner, when the subcommittee staff visited your offices you discussed this with them, did you not?

Mr. Brunner. You are going into an area that I am not familiar with.

Mr. Moffett. Do you keep a complete enforcement history on paper regarding each reactor?

Mr. Brunner. Yes; we keep a computer history.

Mr. Moffett. It is my understanding that you told the staff that frequently you do not commit your enforcement actions to paper but rely on telephone or personal conversations as enforcement devices. For example, you call up Mr. Finfrock at the utility if you are upset about the indications of an inspection and tell him personally he should do something. Is that incorrect?

Mr. Brunner. You are talking about telephone conversations now.

Mr. Moffett. Yes.

Mr. Brunner. That is correct.

Mr. Moffett. Then you do not keep a complete enforcement history on paper regarding each reactor.

Mr. Brunner. There are immediate action letters which are formal PDR—public document room—material. Enforcement actions, as I understand them, are in accordance with our manual chapter, which is items of noncompliance rather than normally thinking of an enforcement action as a phone call, as you are talking about.

Mr. Moffett. Was it not expressed to the subcommittee staff that you have some concern about putting anything on paper because it makes it vulnerable to the Freedom of Information Act and requests that might embarrass a licensee or region I?

Mr. Brunner. I do not know of anything that I do or fail to do——

Mr. Moffett. Is that not a feeling on the part of anyone in region I?

Mr. Brunner. No.

Mr. Grier. Not to my knowledge.

Mr. Brunner. Not to my knowledge.

Mr. Moffett. Very well. It just seems to me that if you do not have a complete onpaper record of these actions, then we are relying to a great degree on personal memory as an enforcement tool. It is hard for us to know what the performance of a licensee has been and the enforcement history between the licensee and the region if there is no clear documented record. Am I off base here?

Mr. Grier. Let me comment and maybe Mr. Brunner will want to say more. When we talk about enforcement action, that is action taken as a result of a finding of an item of noncompliance.

When matters are identified as being in noncompliance there is a record made. All enforcement action to require a licensee to correct an item of noncompliance is put into a record.

Mr. Moffett. You are speaking officially—from the manual? I appreciate that, but that is a very narrow use of the word enforcement. Officially, you might be correct, but there are a host of other things that you do with regard to interaction with a licensee that I am suggesting perhaps are being done by phone.

Mr. Grier. I would not call that an enforcement action because——

Mr. Moffett. What would you call it?

Mr. Grier [continuing]. You are implying there that we are not making a record of items of noncompliance——

Mr. Moffett. What would you call it then?

Mr. Grier. A corrective action, I believe. If we become aware of a problem before we have identified an item of noncompliance, we are obligated or should call that to a licensee's attention and have him look into it and take appropriate corrective action.

Mr. Moffett. Why should not, for example, this subcommittee be able to look at something on paper with regard to that?

Mr. Grier. If there is an item of noncompliance identified, it is documented.

Mr. Moffett. There are things short of that that could be rather significant.

Mr. Grier. I am not aware that that is a significant problem. That procedure would then be followed by an inspection report, items of noncompliance, and an enforcement action.

Mr. Moffett. I am just concerned. I think, if you put yourself in my position or that of other subcommittee members, we need to have some idea of what is going on so that we can do our job of seeing how you are performing your job. That is what we get paid for.

Another example are these consultant studies. That outfit in Rockville, Md. you heard me talking about before—you did not have a copy of that study. It is a very important study by a consultant. You may have it now that the subcommittee has it. Is that correct?

Mr. Grier. Yes, sir. We do have it.

Mr. Moffett. What is the problem there? I would like to know that you, Mr. Grier, have a copy of that study. I think it is really important that you have a copy. Not now. I mean, as these things evolve, why in the world would you not have access to that? Was there no procedure that insures that you are kept informed of things like that? Do we have to write it into the NRC authorization bill this week? I do not think that we should.

You can require that, can you not?

Mr. Grier. Yes; I think we can. Whether or not the present regulations are specific in covering this point, I am not sure. We could certainly require licensees to provide us with that information.

Mr. Moffett. Does it seem like a good idea to you?

Mr. Grier. Yes, sir, it does.

Mr. Moffett. It should not be necessary for us to put an amendment on the authorization. I do not think our relationship is the kind of adversary relationship that necessitates putting that in. I would just like to know that you are requiring those kinds of things. That is all.

The Chair would ask if the gentleman from New Jersey could ask his questions from the chair?

Mr. Maguire. Do you want me physically in the chair?

Mr. Moffett. Yes, please.

Mr. Maguire [presiding]. Mr. Grier, we have spent the better part of a number of hours here talking about a whole series of items which relate in one way or another to plant safety. Some of them seem to have some significant relationship to the health of workers in the plants.

Others relate to the operation and maintenance of the plant itself.

Taken individually, some of these items would appear not to be terribly important—one bolt rather than two, a door opened when it should be closed when there is somebody standing there who is under instructions to close it, and the monitoring of radioactivity by hand portable monitors rather than permanent ones because the calibrations are not adequate to get accurate data, et cetera.

What is your judgment as to the implications for the safe operation of nuclear plants, of the kinds of matters that we have been examining today, which were examined in the PAB report and which your people have been concerned about over a period of time? Are these important matters?

Mr. Grier. Yes. They are important matters. I think it is important that management controls be improved at operating powerplants.

If I understand PAB's conclusion here, however, that even though particular areas were graded as being poor, they are still acceptable.

Mr. Maguire. Let me try to understand that. Areas rated poor are still acceptable? Is that what you said?

Mr. Grier. Yes. That is what I said.

Mr. Maguire. What would something have to be rated before it became unacceptable?

Mr. Grier. Something less than poor.

Mr. Maguire. Very poor, extremely poor?

Mr. Grier. This is the difficulty I have and I indicated it in my statement. I do not know the criteria against which PAB arrived at these gradings. It was, in my understanding, comparing the plants which they had inspected.

Still, continuing on the point that I wanted to make, I have said previously that I believe the way to improve management controls at nuclear plants is to establish standards at a higher level than we have previously had in effect.

Mr. **Maguire**. Are you saying that a rating of poor, as it is used in the PAB analysis, reflects a level of operating efficiency and safety which is acceptable to you as the Director of region I? That is obviously not what you would most desire. You would require improvements, but you are saying that a poor rating is acceptable?

Mr. **Grier**. I think we are correct in requiring improvements as we did in this case require the licensee to evaluate his controls and propose a program for improving them.

Mr. **Maguire**. Would I be correct in concluding that the only things that you would believe were unacceptable would be those worse than poor, using the word in the context of the PAB report? And, if I am correct on that—are we in fact then talking about matters which would be unacceptable only if they were serious enough to, say, require the shutdown of a plant? Is there some category of deficiency that would be unacceptable but not require the shutting down of a plant?

Mr. **Grier**. I would think that we could get into a situation where management controls were at such a point that it would require shutdown of the plant.

Mr. **Stangeland**. Would the gentleman yield a moment?

Mr. **Maguire**. Yes; I will.

Mr. **Stangeland**. I would like the gentleman's attention for just a second. Let us suppose this. If our standard of excellence is a graded scale of 100 and a plant achieves 70 percent of that, you might say that is poor. But if the standard of excellence is at a plane of 80 and he only achieves 70 percent, it is better, according to the standard, but probably poorer as far as actual operations are concerned.

I think that is the problem that we have—where that standard of excellence is. I think that is what this gentleman said. I think that is what Jersey Power said, namely, that they do not have a standard against which to grade. Therefore, it is poor because there are some things that are not quite right. There are some problems. I think everybody admits that.

Mr. **Maguire**. But the real question I posed is whether anything below, let us say, 75 percent—would require the shutdown of a nuclear powerplant. For example, a valve that did not open or did not close at the proper time with potentially very serious consequences, or a fire that might not have resulted if the situation were properly monitored as was the case at Browns Ferry.

Mr. **Stangeland**. I am not quarreling with the gentleman. I am just saying that it is a very difficult thing to determine what is poor, what is very poor, or what is acceptable.

Mr. **Maguire**. Mr. Grier, you indicated in your prepared statement that you were aware of problems in the radiation detection area prior to the PAB survey. You also claimed, contrary to PAB's findings, to have been aware of problems in other areas as well.

Several questions derive from that. First of all, why was not the PAB team informed that you were aware of deficiencies in some of these areas?

Mr. **Grier**. I can cite one particular instance. I believe they were. If you read their report they said region I recognized this problem.

Mr. **Maguire**. There were other instances where their report cast a negative interpretation on region I's activities, that region I was not acting to resolve the problems. In your statement before this subcommittee you claim you were aware of these shortcomings and were working toward their resolution.

I am just trying to understand what the factual situation is here. If it is true that you were aware of all of these shortcomings, why did not the PAB team recognize that in its initial report?

Mr. GRIER. I am saying that I believe they did.

Mr. MAGUIRE. That is not the way I read it.

Mr. GRIER. Do you have the assessment report at hand?

Mr. MAGUIRE. In your own statement, on the bottom of page 4 you say: "PAB found management problems in other areas as well that were not clearly recognized by region I management."

Mr. GRIER. That is the conclusion in the transmittal of the report to Mr. Stello from Mr. Thornburg.

Mr. MAGUIRE. That is what I am saying. That is what they concluded.

Mr. GRIER. My point is that I believe, if you read the PAB assessment report attached to Mr. Thornburg's memo, you will find that they acknowledge the region was aware of problems in other areas.

Mr. MAGUIRE. You are saying that Mr. Thornburg did not read the material carefully enough and he made a false statement in the memo, that in fact you were aware, and in fact PAB in its own material knew that you were aware and so stated. Therefore, Mr. Thornburg's statement is false.

Is that correct?

Mr. GRIER. That is what I believe is true. We have discussed with PAB, since this report was issued, and I believe they now acknowledge that we were aware of other areas.

Mr. MAGUIRE. Why were these deficiencies permitted to continue prior to the PAB analysis? If you were aware of them, why had you not taken care of them along with the licensee?

Mr. GRIER. Going back to 1977 or 1978, in an earlier time frame, we had inspected in these areas. The inspection reports are in the record. They show our findings and awareness of management control problems in that area.

You have to understand that our inspection program is not 100 percent. It is a sampling program. We had not necessarily looked at the specific item that PAB looked at.

Mr. MAGUIRE. Is that going to change after you have your resident inspectors there all the time, or are we going to continue to have a sampling of what might otherwise be characterized as a hit and miss approach to this matter?

Mr. GRIER. It will continue to be a sampling program, but the sample will be larger.

Mr. MAGUIRE. Would you say that hit and miss approach is a fair or an unfair characterization of the sampling program.

Mr. GRIER. I think that is unfair. I do not think it is hit or miss. It is a planned program.

Mr. MAGUIRE. How sure can we be of not missing?

Mr. GRIER. I am sure that if PAB goes in in the future with a six-man team and spends 750 man-hours of inspection they will find items of noncompliance.

Mr. **Maguire.** You have already told me that you think those items are important. In response to my first question, you said that those are important items. Yet we have a situation in which, for whatever reason, there were shortcomings. You tell me that region I was aware of them. Now you are telling me that the inspection is by a sampling technique and will continue to be so even after the resident inspectors are in place.

You admit that the shortcomings were not taken care of prior to the PAB inspection, so what is one to conclude other than that? These are serious matters, some of which are not going to be taken care of in a timely fashion thereby assuring the safe operation of nuclear powerplants. Is that the conclusion that one comes to on the basis of all the things that you have just said?

Mr. **Grier.** No. I do not think that that is the conclusion.

Mr. **Maguire.** But the fact is that these shortcomings were not taken care of prior to the PAB inspection. You have just indicated that in the future you would not expect that similar deficiencies will be uncovered and that any PAB inspection in the future would be likely to find a number of these types of shortcomings, which you have already described as important.

What other conclusion can one draw?

Mr. **Grier.** What PAB has done and what we need to do more in the region is to place emphasis on management controls and the system for controls in a particular area. That does provide assurance that significant safety items will not be missed.

However, with inspections of this type we will probably continue to be able to identify individual items of noncompliance. The individual item, in my view, is not of significance in terms of the overall safety of operations of the plant.

Mr. **Maguire.** Do you think a complete review of nuclear powerplant operation—your effort, the licensee's effort, the NRC's PAB effort—is going to be undermined by charges and countercharges, findings, and face-saving explanations? Perhaps there may be organizational jealousies between the PAB group and region I. Is that a potential problem?

Mr. **Grier.** I do not think that is a problem. I indicated in my statement that I thought PAB fulfilled a useful purpose and that they can be effective. I believe that such an audit program is necessary.

Mr. **Maguire.** Why was Oyster Creek selected for one of the first PAB evaluations? Did you make any recommendations with respect to that selection?

Mr. **Grier.** No. That selection—this particular inspection was done in response to a request to the Director of Inspection and Enforcement from the Commissioners, particularly as a followup, I believe, to the Three Mile Island accident and the recognition that both Oyster Creek and Three Mile Island were under the same organization.

Mr. **Maguire.** Was that the reason that it got special attention early on because it was under the same management?

Mr. **Grier.** Yes. That is the reason this inspection was done.

Mr. **Brunner.** This is more typically a PAB function than it is a region function.

Mr. Maguire. Mr. Brunner, will you restate that? What is more typical of what?

Mr. Brunner. The original request came from a Commissioner and it came to the region for us to do the appraisal of Oyster Creek management. Boyce sent that back in to Mr. Stello, saying that this mission was more appropriately performed by PAB than it was by the region itself. That is the way this all got started.

Mr. Maguire. That leads me to my next question. You were here in the room, I believe, when I had the exchange with the two gentlemen from the PAB team. One of them described regulatory compliance as your mission in region I as opposed to management review, which was the mission of the PAB team.

How do you see that distinction? Is compliance something different from good management, or are those separable items? Are there things PAB does that you are not supposed to do or that you are not capable of doing?

Mr. Brunner. I think you will find that the regional track record is exactly what you are saying, that we have gone and looked at management of the utilities and have been the reason why the utilities performed audits and why they have beefed up the HP—health physics—ahead of their own programs.

Yes, we have. It is not new.

Mr. Maguire. Does that mean that you, in fact, do all of the things that PAB does?

Mr. Brunner. I think the message behind Three Mile Island is, first, that the inspector's role in compliance is that the inspectors look at something, and as Dr. Bartnoff mentioned, against a book requirement. That is the inspector's mission, but then there is now the question of why. Is this the only item of noncompliance in that particular department? If it is not, what is the real problem with the licensee management system?

So, we have done that.

Mr. Maguire. Your statement to this committee is that you are giving attention to that matter now.

Mr. Brunner. Yes.

Mr. Maguire. Does PAB do a better job than you do at that? Do they do a more definitive, thorough job, or are they in fact duplicating on a spot basis at various locations around the country what is already a very excellent job of review of management operations being done by your region and other regions?

Mr. Brunner. As a single data point, I do not think I would make a judgment on that at all.

Mr. Maguire. Could you make a judgment on that, Mr. Grier, at least with respect to region I?

Mr. Grier. I was going to say this. I think that one aspect of the PAB approach that we have not utilized in the regional program is team inspections to look into a number of functional areas at the same time so that you get, perhaps, an overall picture of management. The regionally based programs have been directed, in a given inspection, to a given area.

From the standpoint of the overall team inspection concept, I think PAB does a better job.

Mr. Maguire. It results, however, in ratings like average and poor. If you were taking the same material—and I am sure you have looked at every shred of it, as developed by the PAB team—what rating categories would you have used?

Mr. **Grier**. Unless the rating categories are defined and the criteria established, I think that we should only be using the pass-fail or acceptable-not acceptable ratings.

Mr. **Maguire**. Are there things that you do that the PAB team was not looking at? Are there things under compliance that they did not pay attention to that you do on a regular basis?

The implication of one of their earlier answers is that they were looking at overall management and they were not concerned with day-to-day compliance issues. I wondered how you say that. Is that true or false, as you look at it?

Mr. **Brunner**. I think the new SALP program, which has just started in the region, is really an attempt by us to do the same thing—an overall evaluation of the licensee along with licensing—another arm of the NRC. It is those two groups that do it on a periodic basis every 6 months.

That will then point out the weaknesses in the management control systems of each of the licensees at that time and they will be told.

Mr. **Maguire**. Part of the problem here, I take it, is to establish criteria that are uniform, well understood, that the PAB team, yourselves, and those setting up the SALP program can use. Is that correct?

Mr. **Brunner**. That is correct.

Mr. **Maguire**. We are not there yet.

Mr. **Brunner**. In my opinion, we are not.

Mr. **Maguire**. When do you think we will be there?

Mr. **Brunner**. You are asking for an absolute answer——

Mr. **Maguire**. No. I am asking for a ball park estimate. Is it going to be in 1 year, 5 years, or longer before we have criteria that everybody can agree are clearly stated, applicable, important, and against which all nuclear power facilities can be regularly and systematically evaluated?

Mr. **Grier**. I expect it will be at least 1 year. I would hope it will not be 5. It will perhaps be 2 years.

Mr. **Brunner**. I would like to inject at this time the fact that there are now 17 developed categories. I do not really believe that a licensee suddenly goes bad in all 17, or suddenly, because we are better, or different, or a better sampling, or whatever, all 17 or 7 of the group are in that position.

The regional mission is that once we find a weak area in the management control system, we at that time had better do something and accelerate the inspection programs—special inspections, enforcement actions, or whatever. The traditional regional role is that when our inspectors do find major findings, we are then on a timeclock to somehow or another attain corrective action in the short term at that time.

It is typically a single area, because that is what our inspection program is, rather than all 17 at one time.

Mr. **Maguire**. I believe it was Mr. Finfrock who earlier indicated that he believed that J.C.P. & L. was now in compliance in each of the 14 problem areas identified at the Oyster Creek facility. Is that your judgment?

Mr. **Grier**. We have not——

Mr. **Maguire**. Do you not know?

Mr. **Grier**. I do not know at this point. We have not verified the corrective action in all areas.

Mr. **Maguire**. What plans do you have for verifying corrective measures?

Mr. **Grier**. We will do that prior to the plant's resuming operation.

Mr. **Maguire**. That is in a few weeks, is it not? Have you started the process?

Mr. **Brunner**. Oh, yes.

Mr. **Grier**. Yes.

Mr. **Brunner**. It is incremental. Some of the things have been confirmed and some are not yet complete, at least to our knowledge—that is, some of the things that will be done before restarting.

Mr. **Maguire**. Is your evaluation going to be limited to the specifics contained in the PAB report, or are you going to be looking beyond those specific items?

Mr. **Brunner**. I think the PAB findings are less than half of the total list that we are looking at. It is far beyond it.

Mr. **Maguire**. Do you think that there is any reason to believe that GPU's concern about TMI and its aftermath has affected, one way or another, its commitment and effectiveness at Oyster Creek?

Mr. **Grier**. I do not think so.

Mr. **Maguire**. There are two possible answers. One that they have committed so much time, attention, and manpower to TMI that they have not been able to do as well as they otherwise might have at Oyster Creek. Alternatively, because of the TMI fiasco they may be even more attentive than they might otherwise have been to Oyster Creek and any other facilities.

How would you characterize the attention that GPU has paid to the Oyster Creek facility in the aftermath of TMI?

Mr. **Brunner**. It is not business as usual. I think as a result of the inspection program in calendar year 1979, that there are major changes in staff levels, which of course is dollar output by the utility.

Mr. **Maguire**. A positive?

Mr. **Brunner**. Positive, yes, sir.

Mr. **Maguire**. A positive commitment of time, dollars, and staff.

Mr. **Brunner**. Yes, sir.

Mr. **Maguire**. A commitment that would have positive effect on operations at Oyster Creek.

Mr. **Brunner**. Yes, sir.

Mr. **Maguire**. You have not seen any pattern that would suggest to you that they are giving less attention to Oyster Creek as a result of Three Mile Island.

Mr. **Brunner**. I see no pattern that would say less. I do see a pattern that says more

Mr. **Maguire**. Thank you very much for your testimony.

The subcommittee stands adjourned.

[Mr. Grier's prepared statement follows.]

Prepared Testimony
of
Boyce H. Grier

Mr. Chairman, my name is Boyce H. Grier. I am the Director of the Region I Office of the Nuclear Regulatory Commission. With me today is a member of my staff Mr. Eldon J. Brunner, Chief of the Reactor Operations and Nuclear Support Branch, Region I. We are pleased to appear before this Subcommittee in response to the request in your letter to me dated May 20, 1980, to provide testimony with respect to the Performance Appraisal Branch (PAB) inspection program from the Region I perspective with particular reference to the PAB inspection of the Oyster Creek facility.

The Region I Office of the NRC is located in King of Prussia, Pennsylvania. As Director of the Region I Office, I report to the Director of the Office of Inspection and Enforcement (IE) at NRC Headquarters, and am responsible for directing the NRC program for inspection and enforcement for all NRC licensees in the Region I geographical area. This area consists of the eleven states in the northeast region of the country, and the District of Columbia and includes the State of New Jersey in which the Oyster Creek facility operated by the Jersey Central Power and Light Company is located. Mr. Brunner as Chief, Reactor Operations and Nuclear Support Branch (RONS) has responsibility for managing the inspection and enforcement program for all operating reactors located in Region I. This includes the program for the Oyster Creek facility.

PAB Inspection at Oyster Creek and Region I Followup

Region I was notified of the plans for the PAB inspection at Oyster Creek in a memorandum dated August 24, 1979. The project inspector in the RONS Branch assigned to the Oyster Creek facility was directed to make the necessary arrangements with the licensee for the PAB inspection and to provide PAB with all requested information and documentation. The project inspector provided liaison between Region I and PAB, and subsequently attended the exit interviews held by PAB with licensee management at the site on November 2, 1979, and at the corporate offices on November 8, 1979.

The PAB inspection report was transmitted to Region I on December 19, 1979, along with a proposed Notice of Violation and proposed Letter of transmittal to the licensee. In accordance with procedures established by the Director, IE, the Regional Director has responsibility for followup enforcement action as a result of PAB inspections. As a result of Region I review of the PAB report, and their inspection findings, I concluded that the case warranted escalated enforcement action by the Director, IE. As Regional Director, I am delegated authority to issue a Notice of Violation to a licensee for identified items of noncompliance. A Notice of Violation requires the licensee to correct the item of noncompliance and to respond in writing with a description of the corrective action, and a commitment with respect to when corrective action will be completed. The authority to take enforcement action beyond a Notice of Violation, i.e. levy civil penalty or impose an Order has been retained by the Director, IE. Because of the number of items of noncompliance identified by the PAB inspection and the significance of their appraisal findings, the case was forwarded to the Director, IE for escalated action. In addition to issuing a Notice of Violation, Region I proposed that the Director issue an Order requiring the licensee to conduct reviews of his overall management control system and of his procedures and methods for conducting internal audits and for correcting identified deficiencies, to report the results of these reviews to the Director, Region I; and to meet with the Director, Region I to discuss corrective action.

The enforcement action was issued by the Director, IE on February 20, 1980, including the Notice of Violation. The letter to the licensee directed that the reply to the Notice include a description of the corrective action taken or planned to improve overall management controls, particularly in these areas which PAB had identified as poor and to meet with the Director, Region I to discuss the corrective action. The letter sent by the Director, IE thus accomplished essentially the same objective as the Order proposed by Region I.

The licensee's response to the enforcement action was transmitted to the Director, IE on March 17, 1980. The meeting with Region I was held in the Region I office on April 29, 1980. The licensee has taken or plans to take corrective action for all items of noncompliance. In addition, commitments to take corrective action to improve management controls have been made. As a result of information supplied by the licensee, Region I has recommended the one item of noncompliance be withdrawn and that another item be recategorized as a deficiency rather than an infraction. The Region I recommendation on this matter has been discussed with PAB and they have no objection. Based on the licensee's response to the Notice of Violation and the discussions during the April 29 meeting, Region I has concluded that the licensee has taken or plans to take appropriate corrective action for all matters identified by the PAB inspection. Region I will conduct inspections as appropriate to verify that the licensee's corrective action is completed in accordance with commitments.

PAB Assessment of Region I

In addition to the inspection at Oyster Creek, and in accordance with procedures established by the Director, IE, PAB conducted as assessment of Region I activities at Oyster Creek and transmitted a report to the Director, IE on March 7,

1980. This report was subsequently forwarded to me by the Director on March 26, 1980. I met with the Director on April 10 to discuss the PAB assessment report and subsequently provided my written response on April 29, 1980. A summary of my comments and response to the PAB assessment report follows.

1. The PAB assessment activities did not include interviews with Region I managers or inspectors. It appears that some of their commitments resulted from the lack of communications between PAB and the Region. I have recommended to the Director, IE that PAB procedures for assessment of a Region be changed to provide for an exit interview with Regional Director and opportunity for the Region to review and respond to a draft assessment report.

2. The March 7 memorandum forwarding the PAB assessment report concludes that Region I did not followup in the health physics or radiation protection areas following the issuance of a civil penalty to the Oyster Creek licensee on January 12, 1979. This is not correct and is a matter which would have been recognized by PAB had there been communication with the Region prior to issuance of the assessment report. It is correct that the record of Region I followup activities was deficient. A number of activities were conducted but not documented for the record. Action is being taken to assure completeness of the record of followup activities by Region I and will be completed by June 1, 1980.

3. The March 7 memorandum concludes that while Region I had recognized problems in the radiation protection area, PAB found management problems in other areas as well that were not clearly recognized by Region I management. On

the contrary, Region I was aware of management problems in other areas, particularly in the training area and the maintenance area, and had taken steps to require corrective action by the licensee. I believe PAB now acknowledges this. In any event, Region I will conduct appropriate inspections in all areas to verify licensee corrective action in response to the PAB inspection.

4. The March 7 memorandum concluded that the Region I policy regarding the handling of unresolved items should be reviewed. This has been done and I find that our policy in Region I is consistent with IE policy. Nevertheless, to assure that Region I inspectors are properly instructed, guidance for inspectors is being developed and instruction in this guidance on handling unresolved items will be completed by July 1, 1980.

5. The March 7 memorandum comments that PAB saw a lack of coordination of the Region I inspection program in the case of Oyster Creek. I have found nothing in the PAB assessment to support this finding. There are existing Region I Instructions which specifically define various responsibilities for implementation of the inspection program. We are reviewing these instructions and revised guidance for inspectors will be issued as appropriate.

Conclusion

Your May 20 letter specifically requested my assessment of the PAB inspection program and its implications for the existing regional NRC inspection program. The comments which follow represent my personal views on this matter.

It is clear to me that the Director, IE must have the capability to conduct audits of field activities under his direction. With the decentralized organization that we have in the Office of Inspection and Enforcement with five Regional Offices and with the decentralization of the Regional Offices that is going forward with the implementation of the resident inspection program, I consider it essential that there be an effective audit program. The PAB inspection program is one way of conducting such an audit program and I believe it can become effective in achieving the necessary objectives, namely assessing the uniformity of IE program implementation and Regional Office performance and in providing information on resident inspector objectivity. I also believe that PAB can make meaningful appraisals of licensee management controls and I am not convinced of their ability to grade or rank such controls. I also do not see the necessity for such a ranking.

With respect to implications for the regional program, I believe that PAB can provide the same audit services to the Regional Director as to the Director, IE. Furthermore, I believe that PAB can make significant contributions to improving the regional program. As techniques for appraising licensee management controls are developed I believe they should be incorporated into the regional program so that the regional program places more emphasis on this aspect of inspection.

Thank you, Mr. Chairman. We will be happy to respond to any questions.

[Whereupon, at 2:45 p.m., the subcommittee adjourned, to reconvene at 10 a.m., Thursday, May 29, 1980.]

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NUCLEAR REGULATORY COMMISSION INSPECTION PROGRAM AND THE OYSTER CREEK, N.J., NUCLEAR FACILITY

THURSDAY, MAY 29, 1980

House of Representatives,
Environment, Energy,
and Natural Resources Subcommittee
of the Committee on Government Operations,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2154, Rayburn House Office Building, Hon. Toby Moffett (chairman of the subcommittee) presiding.

Present: Representatives Toby Moffett, Peter H. Kostmayer, Mike Synar, Joel Deckard, and Arlan Stangeland.

Also present: John R. Galloway, staff director; Barry Hager, senior counsel; and Catherine Sands, minority professional staff, Committee on Government Operations.

Mr. Moffett. The subcommittee will come to order.

This morning we are holding the second day of hearings on an important new inspection program within the Nuclear Regulatory Commission. This program, featuring a special inspection group known as the Performance Appraisal Branch—PAB—is the keystone in the NRC effort to come to grips with the problem of weak operating utilities in the nuclear power business.

Yesterday we heard at length from a number of witnesses, including members of the PAB team, officials of the NRC region I, the office with ongoing inspection authority over reactors in the Northeast United States, and officials of the utility, Jersey Central Power & Light Co., the owners and operators of the Oyster Creek nuclear generating facility 35 miles north of Atlantic City, N.J.

The testimony yesterday revealed a number of the facts that are crucial to effective future regulation of the nuclear power industry. First, it showed that this new team of inspectors is focusing for the first time in NRC history on the elusive but vital problem of poor management controls in nuclear powerplants. Second, it showed that there are problems in the adequacy of management controls in a significant proportion of the plants already inspected by the PAB group.

Third, the testimony indicated that at present staffing levels this management appraisal inspection will not be completed at all the 68 operating nuclear reactors now on line in this country for as long as another 15 years. Moreover, the testimony revealed that there are problems in the NRC's support for this program, particularly in the regional offices, which need to be remedied if this program is to be as effective as its supporters believe it could be.

Yesterday, we also discussed at considerable length and with great candor the particular problems of the Oyster Creek facility—one of the first nuclear plants to be fully inspected and evaluated by this new management appraisal team. I think it is fair to say that the Oyster Creek case study highlighted for the members of the subcommittee the potential value of this new inspection program.

Today, we want to examine the future, both for the PAB inspection program and for the Oyster Creek plant. To address those futures, we have respectively, Victor Stello, Director of the NRC Division of Inspection and Enforcement, the office housing the PAB program, and Herman Dieckamp, president of General Public Utilities, the parent company of Oyster Creek's owner, Jersey Central.

Mr. Stello will discuss the future of the PAB group, the regional offices, and the NRC inspection program generally. Mr. Dieckamp will explain to us the GPU plans to reorganize, forming an entirely new nuclear subsidiary to operate both their nuclear plants—Oyster Creek and the Three Mile Island plant currently shut down due to the accident at unit 2 over a year ago. Mr. Dieckamp will address the question of how this reorganization will enhance the safety and management performance at both GPU nuclear sites.

Our first witness is Mr. Stello.

Would you come forward?

As you may know, it is the practice of the subcommittee, Mr. Stello, to swear in all witnesses so as not to stigmatize any witness. Would you remain standing and raise your right hand, please? Do you swear to tell the whole truth and nothing but the truth, so help you, God?

Mr. STELLO. I do.

Mr. MOFFETT. Please be seated.

STATEMENT OF VICTOR STELLO, JR., DIRECTOR, OFFICE OF INSPECTION AND ENFORCEMENT, U.S. NUCLEAR REGULATORY COMMISSION

Mr. STELLO. Thank you, Mr. Chairman.

Mr. MOFFETT. Mr. Stello, we thank you for being with us, and we view your testimony as very important. I know you do have a prepared statement, and without objection that statement will be considered, in full, as part of the record. The subcommittee would prefer that you summarize that statement, if you would, at this time.

Without objection, the statement will be included in the record.

Would you identify yourself again formally for the record, and give us your title, and then proceed in any fashion you desire?

Mr. STELLO. Thank you, Mr. Chairman. My name is Victor Stello, Jr. I am Director of the Office of Inspection and Enforcement with the Nuclear Regulatory Commission.

With your permission, I will very, very briefly summarize the testimony but would prefer also to expand and add some additional remarks to set it in the context of the PAB program as well as some of the other programs and how they are coupled and how they relate to each other, and then I will make a few remarks about where we will be going with the program in the future.

The basic and fundamental inspection program within the office is founded on the principle of having a number of people who are able to go in and do very specialized inspection on a routine basis. There is guidance for that program which consists of the Office of Inspection and Enforcement manual, and it is a very large document that takes up approximately 3 feet of shelf space, which sets forth the detailed procedures by which these inspection activities occur. Examples are: How to go in and inspect containment leak testing, maintenance of various kinds of instrumentation and control systems, welding, calibration, in-service inspection, and what have you, which require people who are trained and specialize in these areas, such as physicists, nuclear engineers, metallurgists, structural engineers, and what have you.

That is the fundamental, basic foundation of the inspection program.

We have recognized—and Congress has supported fully—the need to expand the inspection activity to encompass the resident inspection program. Based on the present track we are on, it is our intent to have, as a minimum two inspectors who will be stationed full time at each operating facility.

We are also stationing resident inspectors at some of the construction facilities, especially those for which we have identified problems which have occurred and the need for such an activity.

As an outgrowth of that program, it became apparent that there was a need to have a performance appraisal activity that monitored the resident program. In the early days of deciding how to go about that was the beginning of what is now the PAB program.

The PAB program is fairly new; all of the reports written to date—the six of them that have been published—have been written this year.

It became apparent to me as the program was developing that there was some additional benefit, which would be the appraisal of our activities as an office—to be able to appraise the activities within the region itself as well as a comprehensive look at the management control system and eventually gain a national perspective on this.

Testimony yesterday described how that would unfold through our systematic assessment of licensee performance. We will be starting that program and hope to have results in the next year.

The PAB activity will be a very important part of that program. Unfortunately, because of the large demands placed on staffing for the resident program with the current housing market, it has become extremely difficult to staff our resident program on the schedule that I think we would like to be able to meet.

We had originally set a target to try to have that program fully implemented by the end of fiscal year 1981. We are now trying to have that program implemented by the end of this fiscal year. At the present time, we still have 13 operating reactors which are not staffed with at least one resident inspector, and we are holding to a target to try by the end of this fiscal year to have them fully staffed.

There is high competition for the kind of inspector that can fill the role as a resident inspector with the kind of inspectors that can be put on our PAB teams. Hence, our PAB activity has been falling behind the staffing schedule for those very same reasons.

There are a number of other factors that need to be considered in deciding how to take PAB into the future. For example, if we decided to consolidate the PAB activity and bring it into our headquarters office in Washington, my candid conversations with the PAB members have led me to believe that if we did this a number of the team members that are now on the team—in fact, I think most of them—would decline because of the financial burden and hardships in moving to Washington. Hence, I am considering very carefully how the organization for the PAB activity in the future needs to be constructed.

At the present time, the PAB inspectors remain within the regions where they are presently located when they join the PAB team. I find this to be a very strong incentive, from my point of view, since the PAB activity has inherent with it an element of an adversary role between the regional activity and the PAB activity. That adversary role, in my view, is a healthy one, a necessary one, and one I would not like to discourage. As part of the PAB activity, we must find where problems within the region exist. It is my intent to call those problems to the attention of the regional directors for correction, such as the record now shows in the case of Jersey Central where there were some difficulties identified within the region. In my judgment, I needed to call these problems to the regional director's attention for his correction; and they have been corrected. It is my intention to continue to do this in the future.

I am strongly supportive of the PAB activity; I think it has the potential for focusing on an area which, I think, the accident at Three Mile Island showed us was very important—the people-related problem or management system.

I intend, in the next months, to turn my attention to trying to improve the staffing of the PAB, but I cannot leave you with the impression that that will be quick. At the staffing level that I am now authorized to reach with PAB, I expect that we will be up to our strength of 24. When I reach that strength, I believe I will be able to inspect approximately 75 percent of the operating facilities per year. But until I get to that level, the inspection frequency, as you indicated in your opening remarks, will be very poor.

With that, Mr. Chairman, I am ready to respond to any questions that you might have.

Mr. Moffett. Thank you very much, Mr. Stello.

As is the practice of the subcommittee, the Chair will now recognize members for questioning.

The Chair now recognizes the gentleman from Indiana, Mr. Deckard, for 5 minutes.

Mr. Deckard. Thank you, Mr. Chairman.

Mr. Stello, I arrived in Washington late yesterday morning and was unable to attend yesterday morning's hearing, and I hope that I do not cover some of the same ground that was covered at that time, but I would like to ask this. What is the relationship between the PAB inspectors and the full-time regional personnel—regional inspectors? Is it good? Have they been cooperative with the PAB inspectors, or is there any resentment that PAB may be uncovering deficiencies in the region's inspection programs?

Mr. Stello. I think the PAB activity, because it looks at the activities that are performed within the region as well as the regional activities themselves, creates a natural adversary role, which I consider to be very healthy.

I have not had an indication that there is any major problem as a result of that adversary relationship. Nothing that has come to my attention would cause me to believe that any of the regional directors would create any problem for the PAB individuals, although there have been comments in some cases—quite candidly—such that the PAB members felt some of the people in the region opposed them. And I suspect they do.

Mr. Deckard. Not having had the opportunity to have compared the PAB inspection of Oyster Creek, for example, with the previous inspections conducted by that region's inspection personnel—it has not been possible for me to make comparisons—it is my understanding that the PAB inspectors did uncover a number of deficiencies which had not, at least, been properly covered by regional inspectors. Would you agree that that probably is the case?

Mr. Stello. I think they have found some things at Oyster Creek that the routine inspection program did not, and I brought that matter to Mr. Grier's attention.

Mr. Deckard. Do you think that may be unique to region I, or do you think it may extend to the other nuclear regions around the country?

Mr. Stello. It is my belief that if the PAB team were to go out to any reactor that the results I would expect to see from that particular activity would be generally consistent with the results from the first six inspections.

Mr. Deckard. My understanding is that in testimony yesterday the assertion was made that Oyster Creek is being judged unfairly—that other plants in other regions generally have not been subjected to the same scrutiny. Is it your feeling that there is any merit to that claim?

Mr. Stello. Surely. The PAB team has been to six plants. I think the results of the six plants—if you read the reports—are generally consistent. And those plants that have not been subjected to that PAB inspection are devoid of those kinds of findings at the moment.

Mr. Deckard. If, as you say, it is your feeling that the PAB inspections would uncover the same general type of deficiencies in other regions as have been uncovered in the inspections to date, what does that say about the overall safety inspection program of the Nuclear Regulatory Commission in general on a nationwide basis, and how much confidence can we have in it because of that?

Mr. Stello. I think the inspection program—the routine inspection program I described at the outset, which is the fundamental program of the office, is a very good program and very sound. The emphasis of the PAB inspection is the management controls, which do not get the same degree of emphasis in the regionally based programs since they are taking it a piece at a time. And the only real comprehensive look that we have at the management control system is now beginning with the PAB activity and the systematic assessment of licensee performance, which is now going on in all the regions.

In my view, I think this is a general upgrading of both our standards and the standards we expect in the industry.

Although we do identify problems in the PAB inspections, I do not think that that, for a moment, ought to reflect if there is an inadequacy in the facility. If a facility is found, for any reason, to be inadequate, that corrective action is taken immediately.

I might cite, for an example, a PAB inspection was not conducted of any construction facility. In the regionally based program, a team of people went out there, and we found that that management system was inadequate, and we had to take appropriate corrective action. That is what we would do if the PAB team found a plant to be inadequate; we have not found that; we have found that there are problems there that need to be improved.

Mr. **Moffett**. Would the gentleman yield?

Mr. **Deckard**. Certainly.

Mr. **Moffett**. The gentleman raises a good point, I think, on the question of the friction, if you will, between this special group and the regional operation.

Your response to Mr. Deckard, Mr. Stello, was that it is truly a healthy competition, and so forth. And I think there is something to support that. But in region I there was a real resistance, it seemed to us, by region I people to the PAB group. Maybe it was just because it was something new, and so forth, but they had a tremendous debate over that Oyster Creek facility, and some of it was very healthy, I am sure; some of it was probably counterproductive—rather petty—and got into bickering, and so forth. Do you not acknowledge that some of it might have been counterproductive? Our testimony would seem to bear that out—our testimony of yesterday.

Mr. **Stello**. Yes. But, again, I do not see how you can possibly avoid having some of that go on, especially with the new program.

Mr. **Moffett**. Let us say, for example, at Rancho Seco, in California, if the region V people—and there are some preliminary indications that the region V people are not really pleased with this sort of "Charlie Beckwith" type of group that comes in like special commandoes to inspect these plants. There is this bureaucratic resistance to it. What are you doing, as the commander in chief back here, to see that, in fact, the regions look at this as a healthy thing?

Mr. **Stello**. First of all, we have periodic meetings—we have had about seven thus far this year—with the regional directors, at which we take those opportunities to make the regional directors understand the need for their support of the program but yet acknowledge the need, since it is beginning, for the constructive kind of criticism in order to make it the best program that we know how.

As we have a program that is beginning—as this one is—I think it is undergoing the growth pains that any new program has, and especially in an area such as management control, which is very subjective by its nature. I think that kind of activity is not one that I did not expect; I did expect it and do expect it to continue. But as we get the program moving into the future, I think those will settle down. I expect it will continue for some time to come.

Mr. **Moffett**. Fair enough.

The gentleman's time has expired. The Chair now recognizes the gentleman from Pennsylvania, Mr. Kostmayer, for 5 minutes.

Mr. **Kostmayer**. Thank you very much, Mr. Chairman.

I am curious about this. Is this duplicative? In other words, why were not these deficiencies discovered by the regional office, to begin with? I know this has been pursued, but can you tell me a little bit more about that? Why is it necessary to have people watching people, watching people, watching people? How long does this go on?

Mr. **Stello**. The fundamental purpose that the PAB program was to serve was to look at the resident inspectors and the activity of the resident inspectors to insure that their objectivity remained. There is a potential, since the resident is out there with the facility—at the time it began there was to be but one resident—for him to become—and the word that has been used is—captured in the licensing organization. By having an appraisal team that can go out and monitor that activity, it can go out and insure that objectivity remains with the resident inspector program.

Mr. **Kostmayer**. Have they been captured?

Mr. **Stello**. So far, we have had no indication that there have been any problems with the resident program, but then again you have to recognize that that is also a new program which is really getting underway just this year.

Mr. **Kostmayer**. But there are some discrepancies between what the resident inspectors found and what the PAB team found, at least at Oyster Creek.

Mr. **Stello**. There was not a resident at Oyster Creek at the time of the inspection.

Mr. **Kostmayer**. I see.

Mr. **Stello**. The principal differences between what was found by the PAB team were the differences between what the regionally based program had found versus what the PAB team had found.

Mr. **Kostmayer**. I think Mr. Deckard may have asked this, but how do you select the utilities that are to be inspected or audited? Is it just at random?

Mr. **Stello**. Our first approach is to try to spread this around to assure that we can at least get several facilities within each region because part of the purpose that I have in the PAB is to also look at, if there are strengths or weaknesses in the regionally based program, to find out what those are as quickly as I can.

So our first inspections were intended to spread out over the five regional offices of the NRC, to at least have one inspection performed in each of the regions, which we have now done.

Mr. **Kostmayer**. Do you give advance notice to these people before you come in?

Mr. **Stello**. Yes, sir.

Mr. **Kostmayer**. How much advance notice?

Mr. **Stello**. I do not believe I can fully answer the question. We usually let them know several weeks in advance.

Mr. Kostmayer. I could be wrong here, but does that give them time to correct problems, or are the problems so serious that it is not really a relevant question?

Mr. Stello. If they could correct problems, I hope they would. If that would do it, I would like to write letters to all of them tomorrow and have them corrected. I do not think it can. The kind of management problem, if it is there, you are going to see it, and it is usually prevalent for some period of time and not correctable in several weeks. But I would be very delighted if they would.

Mr. Kostmayer. Has your team in region I been to Peach Bottom?

Mr. Stello. Yes, sir.

Mr. Kostmayer. Have you prepared a report on Peach Bottom?

Mr. Stello. Yes, sir.

Mr. Kostmayer. Can you tell me a little bit about that? The ownership there is entirely Philadelphia Electric, or only partly?

Mr. Stello. As I recall, it is entirely PE. I would probably need to check.

Mr. Kostmayer. I think you are right. Can you tell me a little bit about what you found?

Mr. Stello. The Peach Bottom report was done before we had the ranking system that was used in Oyster Creek, so I could not compare it to Oyster Creek directly.

My reading of the Peach Bottom report generally showed that there were management control systems in one place or another that could be strengthened and should be. I would have to refer to the report, and it is publicly available. To speak beyond that would be difficult for me.

Mr. Kostmayer. I recognize you may not remember enough about it to answer any specific questions, but do you recall what the level of cooperation was with the utility and your people?

Mr. Stello. I have no indication to believe that there was any difficulty.

Mr. Kostmayer. What about their attitude in general—no problems there?

Mr. Stello. No. The impression I have from the utilities is that they generally find the results of the inspections useful in that they serve the purpose of aiding them in seeing where they do have their own problems. I have not had an indication of any major difficulty with any of the six inspections that have been conducted to date.

Mr. Kostmayer. Has the SALP program really gotten started yet?

Mr. Stello. Not really.

Mr. Kostmayer. So there is no ranking or no listing as far as so-called weak utilities are concerned at this point?

Mr. Stello. No.

Mr. Kostmayer. You cannot characterize any of those utilities that you have inspected so far as strong or weak or somewhere in-between?

Mr. Stello. Not as a result of the systematic assessment. We probably will not have that for about a year. Previous studies have been done which I have found to be very unsatisfactory, in attempting to do this, where the facilities were ranked in what was referred to as the Z score system.

Mr. **Kostmayer**. And the ranking system proved to be unsatisfactory in the past?

Mr. **Stello**. The previous approaches that have been attempted at trying to rank facilities—I have not found those very satisfactory. They are a matter of record, and I think that, if you wish, we could supply for the record the previous studies that have been done, that are several years old.

Mr. **Moffett**. Would the gentleman yield?

Mr. **Kostmayer**. Yes.

Mr. **Moffett**. Are you against ranking utilities, or how do you feel about that? The Jersey Central people yesterday pretty strongly objected to this business of giving out grades to utilities based on how they operate their nuclear plants, as I recall. How do you feel about ranking?

Mr. **Stello**. I think the identification, as we had in Oyster Creek, is a useful one, where it identifies the various areas in terms of being average, good, or poor. It starts with the presumption that, by definition, it is adequate, or action would have been taken. And then it helps both of us, for future reference, and I hope it is useful to the utilities to offer to them our judgment of which areas we consider to be poor, average, or good. By definition those that we find in our judgment to be good, it is our conclusion that they would not have to direct much of their attention or resources to. And those that we find poor are the areas that we hope that they will devote their resources and attention to. For that, it is a good idea.

Mr. **Moffett**. Mr. Grier said he did not go for ranking. Is there a policy now?

Mr. **Stello**. It was the policy starting with Oyster Creek.

Mr. **Moffett**. What is the NRC policy? Are you going to give out grades or not give out grades? Will there be a ranking system at some point, or will there not? What can the public look forward to as far as their nuclear plant in their neighborhood is concerned, and how it qualifies, and how the utility running it qualifies in terms of grades?

Mr. **Stello**. We will have future inspections performed, and in the management areas we will continue to do what we have at Oyster Creek—we will identify those that are poor, good, or average. Whether there are better words to describe it, I do not know, but I think the point is to identify to the utility those areas which we do not believe require improving, and those that do as a result of the systematic assessment of licensee performance. We will write a report which will put all of the facilities in some national perspective. There will be some sense of ranking. I cannot say at this time whether it will be a 1 through 10, which I would oppose, but rather a grouping of those that need more work and where that work is needed. That will be done, and I hope it will be done in a year.

Mr. **Moffett**. That is good.

I thank the gentleman for yielding.

Mr. **Kostmayer**. You say you had a past ranking system which you were not satisfied with? Did this ranking system rank utilities?

Mr. **Stello**. It did.

Mr. **Kostmayer**. And can you tell me if that is still in effect, or has it been discarded?

Mr. **Stello**. It has been discarded.

Mr. **Kostmayer**. Can you tell me where the Peach Bottom plant ranked on that?

Mr. **Stello**. I do not recall, but I could get the document.

Mr. **Moffett**. Without objection, we would like that for the record, and it will be included as part of the record.

[See appendix 6.]

Mr. **Kostmayer**. Thank you, Mr. Chairman.

I have one final question. In your devising of the SALP system, can you tell me whether there will be a place for attitude? Is that possible? I will tell you why I ask. We had a hearing in my district on Tuesday on the emergency and evacuation plans for the Limerick nuclear powerplant. We had testimony from executives of Philadelphia Electric, whose sincerity I do not question, who said that they would obey the law if we had a mandatory evacuation system, but only very grudgingly. Their attitude left a great deal to be desired. I wonder if attitude plays a role here at all.

Mr. **Stello**. It plays a role every day. If I find that there is a problem, in my judgment, with attitude on behalf of the utility, then I think that enforcement activity is appropriate. Depending on that attitude, it would have to be in proportion.

Mr. **Kostmayer**. How do you enforce an attitude?

Mr. **Stello**. An attitude is exhibited by some characteristics. Something is not being done in the way that it should be.

Mr. **Kostmayer**. For example, a key executive described—and I quote—evacuation plans as "window dressing." He said that even in the event of a core meltdown, a 1.7-mile radius evacuation area was more than sufficient for emergency planning purposes. That shows to me incredible resistance to the NRC.

Mr. **Stello**. I cannot speak to that particular issue. But let me try to give you a fuller answer to attitude. The attitude that is present in the corporate management structure—the structure of the people that are operating the utility—is clearly going to be perceived by the inspectors as part of the PAB activity, as part of the regionally based program, in the day-to-day inspections, as part of the resident program as he observes it every day. It will have to result in something not going on in the facility as it should.

Mr. **Kostmayer**. But you might have some reason for concern if Philadelphia Electric executives described NRC rules on evacuation and emergency planning which are currently being promulgated as window dressing. Might that give you some cause for concern?

Mr. **Stello**. I guess I would want to know a little bit more before I tried to react more. It certainly whets my appetite for wanting to know more about it.

Mr. **Kostmayer**. Thank you, Mr. Stello; and thank you, Mr. Chairman.

Mr. **Moffett**. I have a few questions, Mr. Stello, but first I want to thank you for not only being here, physically present today, but for all the time that your offices devoted to our investigation, and the time of the NRC witnesses here.

We learned a great deal about this new PAB appraisal effort, especially in yesterday's hearings. We heard testimony yesterday that raised some highly significant issues about the adequacy of the performance of the regional offices, as I think I pointed out when Mr. Deckard was kind enough to yield to me earlier, and the adequacy of the current regular inspection program which Mr. Kostmayer was just raising.

Let me ask about your budget strength and your resources, however, because you mentioned that. It is something that we know is very important if this kind of program is going to be carried out. We are becoming more and more aware of the significant shortage of trained personnel in this pool and the increase in the number of people who want to hire these folks. I think it is a central issue; I think it is a central issue for us in the Congress with regard to not only the NRC but the utilities, and whether they can get the people. It goes very deep into many other areas, including State budgets now and Federal budgets with regard to education—what kind of training is going on at the various colleges and engineering schools, whether funds are being cut. This is a very, very significant question.

You mentioned, as I recall, that your fiscal year 1981 budget strength for this PAB group is slotted for 24 professionals. Is that right?

Mr. **Stello**. That is correct.

Mr. **Moffett**. But the group now only has about seven people, as I recall. In real world terms, when are you going to have 24 people, regardless of how much money we put in the budget? Can you get these people?

Mr. **Stello**. I hope to be able to get staffed up this year. Until the hiring freeze is lifted, that is going to be, obviously, very difficult. The competition for these people—our senior and most experienced inspectors—which is the same pool of people we are drawing on for our resident program, is tough; I am not trying to say it will be easy. I think by the end of the year we will be able to do it. But if the freeze is not lifted—if we are not able to hire—and our turnover rate continues to be what it is, as you correctly point out, because of the industry needs, they are looking to our experienced inspectors for people that they can hire for their needs. So there is a real problem. The next year will tell us how serious it is.

I do not have an easy answer because I really do not know——

Mr. **Moffett**. So we do not even know that we will have two teams of six in the field by the end of the coming year.

Mr. **Stello**. I am fairly confident that we will easily be up to 12, even taking into account what I have said. It is getting up to the full 24 which I believe will be very difficult. We already have, I believe, about 5 additional people identified, which will put us up to 12.

Mr. **Moffett**. As you may know, just about at this hour—maybe within one-half an hour—the Energy and Power Subcommittee will begin the markup of the NRC authorization bill; and as a member of that subcommittee, I can assure you that I will be pushing for adequate resources for this PAB group.

I have one question, as a sort of aside, however, because of something you raised. How does it influence the behavior of these inspectors of yours, regardless of how good they might be, if they have one eye on an industry job or the possibility of an industry job?

Mr. **Stello**. I have not found any indication that it influences them at all. I think that when the issue is raised, for example, when we have a resident inspector we identify to go to a site, and he has to move his family, at that time, recognizing the move is imminent, he then decides whether he should look around for another opportunity.

Mr. **Moffett**. Are you telling me that these are the only people that go from NRC inspectors into the industry—those that are slated to move—and that is the reason that they do it?

Mr. **Stello**. That is the largest problem that I have seen—the requirement to move our people from the regional offices out into the field in the facilities that require a move. That, for me, has been the single largest problem.

Mr. **Moffett**. What about the promotability question and the questions and problems revolving around titles and grade levels mentioned by Mr. Gagliardo yesterday?

Mr. **Stello**. One area that I do believe is a major problem area and that I am wrestling with at the moment in terms of the grade level for the branch chief for that activity is currently slated—that position is a 15 job, and in order to draw an individual into that job, it might be necessary to raise the grade level to attract the kind of individual that I feel is needed for that important activity. That particular one is of concern to me.

I have not found, for the most part, the grade level by itself as creating any problem in attracting people, for the most part; it is the move—if that issue is raised, it is a big issue.

Mr. **Moffett**. You are going to be facing some difficult choices, as your prepared testimony indicates, about some really basic, important questions—whether you pull all the PAB inspectors into a single unit in headquarters or elsewhere or whether you leave them dispersed in the regions, as they are now. Do you have any idea what your decision is going to be?

Mr. **Stello**. Not yet.

Mr. **Moffett**. When do you think you will make a decision?

Mr. **Stello**. I hope in the next month.

Mr. **Moffett**. There are probably some good reasons for having these PAB group people stationed at the regional offices in terms of fostering better communication between PAB and the regions and to prevent PAB from becoming isolated from the rest of the NRC—do you not think?

Mr. **Stello**. I hope being in Washington and headquarters does not isolate us from the rest of NRC.

Mr. **Moffett**. Washington has been known to isolate people, including us. At least we have to go home and talk to constituents. But let's face it, this is an island in many ways; one can make the case that they are better off out in the real world.

Mr. **Stello**. That has been a very strong consideration—keeping the PAB activity the way it is at the present time—that one element, to be able to keep them in the regions where the inspection activity is going on. It also assists in easing this problem we spoke of earlier in terms of the adversary role, in my judgment, which would be worsened, I think, by consolidating into Washington. But consolidation has many attributes that are important, too.

If we are really going to try to get a national perspective, the interchange and the communication that is needed between the people to try to bring on that kind of national perspective I think also is better achieved in a centralized function rather than decentralized. So it is going to be a difficult decision for me, and I have been struggling with it. The issues we have talked about today are going to weigh heavily in trying to decide.

Mr. **Moffett**. You are going to have to make another decision, and that is about a permanent chief for this PAB outfit. When is that decision going to be made?

Mr. **Stello**. That one might take a bit longer.

Mr. **Moffett**. Longer than for the individual organization, do you mean?

Mr. **Stello**. It might take longer than that because if I attempt to get an SES position, it will depend on whether there are adequate slots for the SES positions within the agency where we can use one for this purpose.

Mr. **Moffett**. What do you have to go through to get that position?

Mr. **Stello**. If my memory serves me right, I believe you have to go get the allocation for increased number of SES positions through OMB and the Office of Personnel Management—both.

Mr. **Moffett**. Both of these decisions are important; we would just like to get an idea as you go along of when they might be made—all right?

Mr. **Stello**. Yes, sir.

Mr. **Moffett**. As I recall, Mr. Gagliardo yesterday said it would take 15 years at the current strength to perform the appraisals on the nuclear plants already operating. That is just unacceptable as far as you are concerned, is it not?

Mr. **Stello**. In my judgment, if we are going to have an appraisal function that is going to take a 15-year cycle, that clearly is unacceptable. I was hoping to have somewhere in the neighborhood of a frequency of return of once every 2 years or so. Anything much longer than that creates a problem for us.

Mr. **Moffett**. I think this oversight subcommittee feels it is unacceptable, and we want to be helpful in any way we can to avoid that from becoming the case—that kind of time schedule.

Going back to the regional offices performance just for a moment, this region I, probably because of the Three Mile Island problem, seemed to be really strung out as far as its workload is concerned. But even before Three Mile Island, there is a real question about whether it had adequate manpower to do its job. This understaffing problem that we see in region I—are we going to find this as we go out and look at other plants such as Rancho Seco and some of the others?

Mr. **Stello**. The resource allocation within the regions is approximately even, and to the extent you perceived a resource problem with region I, I would fully expect that you would conclude that that same problem existed in all of the regions.

Mr. **Moffett**. What about the problem that we discovered in region I with regard to their not having been able to identify problems that the PAB group identified? I think that perhaps in response to a question from Mr. Deckard, you indicated that as you look around the country you will find that PAB groups are going to find more problems than the regular regional operations, and I think you said that is because they focus on management controls, for example. Is that correct?

Mr. **Stello.** That is correct. And I think the six PAB reports already show that.

Mr. **Moffett.** But again, in fairness to region I, we are likely to find this in other regions as well, are we not?

Mr. **Stello.** Yes.

Mr. **Moffett.** OK.

Now, would you provide the subcommittee with a statement concerning the number of inspections required for each operating plant throughout the country for the past 18 months and the number of inspections actually conducted by the NRC?

Mr. **Stello.** Surely.

Mr. **Moffett.** Without objection, the record will remain open for that information, and it will be inserted at this point.

[The information follows:]

The NRC Inspection Program specifies inspection requirements through its Inspection Manual. This Manual consists of detailed inspection modules which prescribes an entity of work. Thus, an inspection can be comprised of one or several inspection modules. The overall program for inspection of a particular type of licensed activity; i.e., Reactor Operations Inspection Program, Materials Inspection Program, Reactor Construction Inspection Program, Fuel Cycle Inspection Program, Materials License Inspection Program, each specify the frequency that inspection modules are to be performed. These frequencies vary depending on the Program. As an example, the inspection intervals for the various modules in the Reactor Inspection Program are:

Monthly
Quarterly
3 Times Per Year
Semiannually
Annually
Two Years
Three Years
When the Licensed Activity Occurs

Therefore, a single inspection may consist of a mix of several modules that have different inspection frequencies depending on the activities to be inspected. Based on this inspection philosophy, a specific number of inspections is not identified in the Inspection Program.

Our inspection experience during FY 1979 and FY 1980 to date is given below:

	FY 1979		FY 1980	
Program	Required	Not Performed	Required	Not Performed 1/
Reactor Operations	3610	556	4592	787
Reactor Construction	3000	365	4109	1551
Fuel Facilities and Materials	3795	429	4409	1924
Safeguards	2809	154	3756	1114
	13214	1504	16868	5376

1/ These are the number of inspection modules that were overdue for inspection as of June 10, 1980.

Mr. **Moffett.** What about a region that does not come close to completing their regular required inspections? Do you impose any sanctions on them? Do you raise the problem, at least, with the region and try to solve it? What happens?

Mr. **Stello**. We are trying to set goals this year to be able to complete our routine inspection program, to the extent we can. We do have a resource problem—what we call our reactive workload, that is, things that have occurred at facilities which require a diversion of inspector effort to handle problems as they come up. Three Mile Island was an extremely resource-demanding activity. The problems that were identified at Three Mile Island that had to be retrofitted into existing facilities were, and are again, a very demanding problem.

We will be setting goals, but I think there is something more fundamental which we also need to do, which I am going to be emphasizing next year. And that is, is it not time to take a look at our program? Perhaps it needs to be revised, taking into account some of the things that we now have learned. That is a particular activity that I hope to be able to restructure some resources to, to devote them specifically to looking at how our program ought to be revised based on what we have learned in the last several years.

Mr. **Moffett**. The bottom line here for the public and their Representatives here in Congress is that the regs seem to say fairly clearly that you are supposed to inspect these plants. I think what we need to know is if they are being inspected or if they are not being inspected. If manpower limitations are such that you are not doing the inspections you should be doing, we need to know that, it seems to me.

I tend to think that you should report to the Congress that, "Look, we are not able to do our job because of what the Congress has done with our resources taken out of the budget or what OMB has done." I think you have to be very candid about that, if that is the case.

Mr. **Stello**. Mr. Chairman, if I felt that way, I would not be hesitant in saying so. Congress has been very mindful of our problems and has been generous. Last year, as part of a supplemental program, they gave us an additional 146 positions to get our resident program in motion, and we have considerably enhanced our inspection activity. We are now doing considerably more inspections today than we did in the past.

These facilities are being inspected. The NRC presence is clearly there. I cannot come here, in good faith, and say the Congress has not been responsive to our needs.

Mr. **Moffett**. I am not only talking about the Congress, I am saying that if, in fact, there are constraints or obstacles, whether the bottom line is or the question is, are you getting the plants inspected in a way that you would like to? Clearly, with regard to PAB, you are not. Or, if you liked the program so much, you would have more teams out there, and you would be able to fill the slots that you are getting in an expedited fashion and get those people out on the road.

Mr. **Stello**. That is true. I like PAB, but I like the resident program even more. I have a commitment to get the resources for that as a higher priority, since the basic, fundamental purpose is to have that program out there, which is part of what you want to appraise first. So the highest priority I have set for myself is to get the resident program set—very ambitious goals which I hope we will meet.

Mr. **Moffett**. We are for the resident program, too, but what is the likelihood that the resident inspector is going to get you as much with regard to the weak utility question as the PAB group?

Mr. **Stello**. In my judgment, there is a great deal that can be accomplished with the resident inspector being onsite full time with the day-to-day activities. So, in my weighing the two, I feel the benefits, in terms of the health and safety of the public, are greater from the resident program than the PAB program.

Mr. **Moffett**. That is hard to argue against. We like both programs and would like to see three or four PAB teams in the field by the end of the year and have them working harmoniously with the regional offices. That sounds "pie in the sky," but we are only talking about 24 people. In a country this large with the kind of attention we are supposedly paying to nuclear power safety, we ought to be able to get that done, or we ought to at least try.

Mr. **Stello**. I have no difficulty committing myself to trying; I have tried, and I will continue to try.

Those 24 people you are talking about are very special kinds of people.

Mr. **Moffett**. I understand that.

Mr. **Stello**. They are the best inspectors.

Mr. **Moffett**. What about the regional operations—when they do not do all they could have done to find out about a licensee's problem, to take effective action, to document the history of the NRC's own contracts with a licensee?

We had a little problem yesterday—I think it is fair to say—in terms of what we found with regard to region I. They do a lot of things with regard to compliance that they do through phone conversations, and so forth. Some of that is not surprising, but we find that there is not enough of a written record with regard to enforcement action in the broadest sense—I do not mean in terms of the manual, the guidelines, and so forth—when they take what they call corrective action with regard to a utility. Much of it is done by phone, and there is not an on-paper record kept. This bothered us a little bit because we cannot do our job in assessing how the NRC is performing its duty. Am I making myself clear?

Mr. **Stello**. Yes. Your characterization, perhaps, is broader than the problem I am aware of.

With respect to Oyster Creek, there were some particular documents that were not placed into the channels they should have been and in the public document room where they should have been, and they found that annoying.

Mr. **Moffett**. They were consultant studies—very important studies.

Mr. **Stello**. I have asked Mr. Grier to fix that record, and he has committed to have that done, I think, by June 1.

Mr. **Moffett**. What about the other regions?

Mr. **Stello**. I am not aware of that problem existing in the other regions, but it will be brought to their attention.

Mr. **Moffett**. Will it?

Mr. **Stello**. It is my design to bring to the attention of all of the other regions the experience that we learn in each of the regions as we go through the PAB activity so that they will be able to look and find out if they have these problems and correct them now rather than waiting until we have a particular inspection in that region that raises them.

Mr. **Moffett**. That is good.

So if I am running another region now, I will hear from you that there may be a potential problem or a real problem with regard to not getting things like consultant studies that utilities have done for themselves. That is the problem we were talking about at Oyster Creek—is that right?

Mr. **Stello**. No. The documentation problem was with the followup documentation that occurred as a result of a civil penalty and the followup actions of it. The issue of consultant reports I feel differently about; I do not know that I would want to have a program that says that every consultant study done for every utility ought to be a matter of public record.

Mr. **Moffett**. We are not saying public record. Let us not confuse the two.

Mr. **Stello**. There is no question that if there is a document that we need as part of our inspection activity to read, we read it in its unvarnished form.

Mr. **Moffett**. Yes; but Mr. Grier did not even know that this study by this Rockville, Md., group on the management of Jersey Central at Oyster Creek even existed.

Mr. **Stello**. That is the kind of information that will be passed on to make sure that inspectors, as part of the routine program, seek that kind of information. That is what I intended when I said that will be fixed. But as far as making those all a part of the public record is concerned, I think you would have the potential for losing the purpose for which the study was made in terms of the candor with which these studies by the licensees themselves, looking at their own systems, will be carried out. I think there needs to be some preservation for them to be able to continue to do that—to fix up their own program, but I hope never to the extent where we will not be able to see them in their offices.

Mr. **Moffett**. OK. But I think we need more than hope. I think there has to be something institutionalized here to get your people out in the field—those inspectors—to say to the utilities:

> Look, if you have any studies done with regard to your performance here that relate to safety in the broadest sense, we want to see them. They are not going to become part of any hearing record, but we want to see them.

Mr. **Stello**. Yes, sir. And there is no mistake but that we have the authority to see them.

Mr. **Moffett**. That is good.

I think that takes care of that problem. I have no further questions at this time.

Does the gentleman from Indiana have questions?

Mr. **Deckard**. Yes; thank you, Mr. Chairman. I have just a few.

Mr. Stello, yesterday one of the witnesses, Mr. Shafer, volunteered his judgment that Oyster Creek was the worst plant that he had observed among the five inspected. I would like to make reference to the ranking of good, average, and poor, of which you have spoken this morning.

What would be the consequences of a utility being given a poor rating?

Mr. STELLO. I spoke to that earlier. In my view, part of the PAB inspection is to recognize whenever there is a question of which safety is an issue—where safety of the public is not being adequately protected. When that threshold is crossed, it is no longer a PAB inspection that we are interested in; it is getting that problem corrected and corrected quickly, so that the PAB inspection, if you will, comes to a standstill, and we get that problem fixed.

When the PAB report is issued, it is issued with the belief that the facility is adequate, and it identifies those areas for which additional work needs to be done. So when it is classed as poor in an area, it means more needs to be done.

If all areas in the facility were poor, it would raise the question as to whether it was adequate.

Mr. DECKARD. In nearly all the examinations that we have conducted into problems in the specific nuclear plants, generally, it seems to center around management problems or lack of management control over adequate quality control programs. I suppose, basically, what I am getting at is this. What type of continuing attitude—or perhaps we will say lackadaisical attitude of management toward adequate safety assurances—at what point would we reach where the NRC would feel compelled to go beyond, say, a simple fine of $10,000, or $100,000, or whatever it may be? Is there a point where the NRC would give serious consideration to actually jerking the construction permit or an operating license so that the entire industry would be on notice that they suffer what would be the ultimate of consequences if they failed to take these things seriously?

When you are considering a multibillion-dollar operation, a $50,000 fine is really of little consequence.

Mr. STELLO. The answer to your question is contained in a draft of an enforcement policy that I have sent to the Commission for their consideration, and it is still under their consideration. This will attempt to deal directly with that issue—under what conditions ought a license revocation or suspension be consideration, and what are the criteria for reaching that judgment.

Mr. DECKARD. Do you think there is a feeling in the industry right now——

Mr. KOSTMAYER. Would the gentleman yield just for 1 second?

Mr. DECKARD. Certainly.

Mr. KOSTMAYER. The gentleman asked about, or at least I think he mentioned the word, attitude. Does your document deal, or can it deal with attitude? Is that possible?

Mr. STELLO. I do not recall the word, attitude, being used specifically.

Mr. KOSTMAYER. The gentleman said lackadaisical attitude in his question to you, but I am asking about attitude.

Mr. STELLO. Do you mean the criteria dealing with attitude? I would not know how to write them, quite frankly, sir.

Mr. KOSTMAYER. Thank you.

Mr. DECKARD. Do you think there is a feeling—and perhaps this follows the same line of questioning having to do with attitude—in the industry that it would be utterly unthinkable that the NRC would ever take such an action?

Mr. STELLO. I do not believe that that would be the case. I think the industry is aware of the enforcement—proposed enforcement policy for my office. And I think the example of Marble Hill, where the construction activity has been stopped, for what now is approaching 1 year, is a clear indication that it is the intent of the NRC, and my intent, that when things are not going as they should, we will take whatever action is needed.

Mr. DECKARD. Actually, Marble Hill was the specific plant that I wanted to lead into from that series of questions. There have been a number of safety-related shutdowns ordered by the NRC with respect to that plant, and with each shutdown we have received added assurances from the firm there, Public Service of Indiana, that the QAQC program would be upgraded in order to meet all the requirements of the NRC. But yet, following each shutdown there were additional revelations of even greater problems, leading one to the conclusion—or at least leading me to the conclusion that the executives of PSI really do not anticipate that there would ever be such a severe action taken as jerking their construction permit.

Do you think it is fair to consider that the management attitude toward construction of the nuclear plant would be symptomatic of its attitude toward the operation of that plant?

Mr. STELLO. I think the attitude—I think it is a word, and if I may dodge for a moment, I am not sure I will have in mind the same thoughts that you had when you said attitude. But if the management system is not dedicated at the beginning to constructing a facility that is done so to meet all of the high standards which that facility should meet in the construction, it then does raise the question for me: If that dedication is not there at the construction permit stage, would it be there in operation? It is a factor that was on my mind when I made the decision to stop the construction at Marble Hill.

The management had to turn around and become convinced and dedicated to the proposition that they were going to build the proper kind of facility, and the construction of that facility will not begin until that dedication is evident through their actions.

Mr. DECKARD. But in this case limited work has resumed.

Mr. STELLO. No work has resumed at Marble Hill yet.

Mr. DECKARD. But it will soon; the Commissioners have acted upon the recommendations of the regional staff to permit limited resumption of construction in safety-related areas on a phased basis.

Mr. STELLO. There will be no construction begun at that facility without my specific approval, and I have directed the region to go out and look into each of the areas in the phased program and be convinced that those areas are adequate before anything begins. That has not been done yet.

Mr. DECKARD. When you say that each of those areas must be adequate, do you mean insofar as their paper plans are concerned, as to what is to be done?

Mr. STELLO. We are beyond the paper plans at the moment; we are in the actual people and implementation and being prepared to do that through action, not just paper.

Mr. **Deckard.** What you are telling me runs directly counter to what Public Service of Indiana has indicated in its press releases and what the newspapers have reported—that limited construction work will begin in safety-related areas on a phased basis, overseen by the Nuclear Regulatory Commission. And you are telling me this morning that that order is, in fact, not the case.

Mr. **Stello.** Nothing can begin without the specific letter from me authorizing it.

Mr. **Deckard.** And you have not sent it?

Mr. **Stello.** And I have not authorized any activity yet to begin at Marble Hill.

Mr. **Deckard.** What action will be required of PSI in order for you to issue that letter?

Mr. **Stello.** The first activity that is begun out there is receipted inspection to receive new materials, and that they shall have the people and the procedures in place to do that to meet all of the high standards. And until our regional inspectors have witnessed that all of that activity has been completed, then and only then will just receipt inspection begin. And that is somewhat removed from the beginning of any construction activity, which will be sometime even longer into the future, which will require a number of other steps.

Mr. **Deckard.** Do you have a projected date as to when that may occur?

Mr. **Stello.** I would not be able to venture a guess. It will be at least some time later this summer, at the earliest; that would be my guess.

Mr. **Deckard.** PSI has said publicly that they will begin in June, and that is incorrect, according to what you have just told me.

Mr. **Stello.** Receipt inspection might begin in June, but there will be no construction that I am aware of because the construction will not begin until the design verification and the construction verification of the structures that are already there is complete; and I do not expect that that will be complete for at least another month or two.

Mr. **Deckard.** The reason I have embarked on this series of questions is that, as I have indicated, as each new problem was discovered, PSI gave additional assurances. And following, I believe, the second safety-related shutdown, an additional 19 violations were uncovered by the regional NRC staff, including such things as reactor coolant valves being left exposed in the weather and in a rusting condition—the same types of valves which led to the problems at Three Mile Island. That is my understanding.

I am just trying to get a feel for what the NRC's attitude is as to when the decision is made that enough is enough, that if they are not serious enough to build the plant safely we simply have to assume that they do not have the concern to operate the plant safely and that the construction permit would be jerked regardless of the cost; in this case it represents quite a few hundred million dollars at Marble Hill.

Mr. **Stello.** I think I reached that point last summer on Marble Hill and concluded that things had to stop until the management of that operation turned around and became dedicated, as I think they must be. I am persuaded that they are going to do that, or they would not have taken the action they already have.

If they do not—and the what if? is always there—then they will not continue to construct it. And at some point, if it continues, it will be, of course, and it is, at their risk, they would never even operate the facility—we would not permit them to construct it in the first place.

Mr. **Deckard**. Thank you, Mr. Chairman.

I would say, Mr. Stello, that I hope the attitude that you have conveyed to us this morning, that the NRC and you specifically do have a limit as to what is permitted—continues. I do think it is significant that the information you have given us this morning runs completely counter to the public information that PSI has been issuing throughout the southern Indiana area. And I intend to see that that misinformation is corrected.

Mr. **Stello**. I think it is fairly clear in the letter that I sent to them, which lays out the phased program for rescinding our order, that nothing is to begin until there is a letter from me authorizing it, and I have not issued any such letter, and there is nothing that has been authorized.

There is one more comment that I feel the need to make. I want to make sure that the subcommittee understands this. It is in regard to the comment that you made about Mr. Shafer indicating that Oyster Creek is the worst that he has seen. He has made that comment to me. And I feel obligated to make the subcommittee aware that, as I read all the documents on the PAB program, and as I have been briefed on all of them, I cannot quite come to the same conclusion that he did, as I have seen the strengths and the weaknesses that have been identified and the items of noncompliance and others in terms of the whole program. I do not see Oyster Creek stand out as the worst.

Mr. **Deckard**. What is the worst?

Mr. **Stello**. It is a difficult judgment to make, but based on strictly the documentation I think the documentation on the Arkansas plant was such that it indicated that there were more problems there than perhaps at Oyster Creek—just based on the documentation itself.

What I cannot do—and what I also wanted to make clear—is replace myself with Mr. Shafer's judgment; he was actually there. But my experience indicates—and I was not able to agree with his judgment based on reading the reports.

Mr. **Moffett**. Thank you. That is fair enough.

Mr. **Deckard**. Would the chairman indulge me with one more question?

Mr. **Moffett**. Certainly.

Mr. **Deckard**. Do you have any plans to send the PAB team into region III, and specifically Marble Hill, at any time in the future?

Mr. **Stello**. My intent would be to order the priority such that the operating plants would be inspected first. With that belief, it will be some time before we ever get to Marble Hill.

Mr. **Moffett**. Does the gentleman from Pennsylvania have additional questions?

Mr. **Kostmayer**. Yes; thank you, Mr. Chairman.

Mr. Stello, I just want to pursue this, if I can. It is such a difficult area—this problem of attitude. I gather that you said that you felt attitude, as far as you are concerned, is a factor and might be specifically determined or gaged in specific management problems—that you might see an attitudinal problem behind a management problem, that it might be reflected through problems in management. Is that right, or wrong?

Mr. **Stello**. I think the day-to-day inspection activities for all kinds of inspections that go on—the routine inspection program, the various inspectors that go there, the resident inspector that sees the day-to-day activities, the PAB inspections, and the other special inspections that we have at the facilities—that if there is this attitude problem, it would seem to me to be very, very clear to the people who were there, and it would be an integral part of the judgment that they would make in terms of the adequacy of the facility.

Mr. **Kostmayer**. Might it be more fundamental than specific management problems? Might there be an overall attitudinal problem?

Mr. **Stello**. I cannot believe that that would exist without being exhibited by other actions that the individuals in the facility would take with the corporate management.

Mr. **Kostmayer**. Might it be exhibited, for example, in testimony before a congressional committee?

Mr. **Stello**. Most certainly.

Mr. **Kostmayer**. And the NRC would certainly consider making a judgment, looking at that testimony and reading it, even though there is no specific so-called management problem there, for example?

Mr. **Stello**. I would certainly, as I have said, be interested. I am not aware of——

Mr. **Kostmayer**. If you found a utility to be hostile or critical—hostile toward NRC regulations?

Mr. **Stello**. I think that if we had that problem I would want very quickly to have a chat with one of the senior officials of that company probably pretty quickly.

Mr. **Kostmayer**. It is a difficult area to gage.

Mr. **Stello**. It is very, very difficult. But the important thing is to understand whether there is a safety problem being created, which is what we are dedicated to and trying to ascertain in all of our activities.

Mr. **Kostmayer**. Thank you very much, Mr. Stello.

Mr. **Moffett**. Would the gentleman please take over the Chair?

Mr. **Kostmayer** [presiding.] Certainly.

Thank you, Mr. Stello, very much.

[Mr. Stello's prepared statement follows:]

PREPARED TESTIMONY
OF
VICTOR STELLO, JR.
DIRECTOR
OFFICE OF INSPECTION AND ENFORCEMENT
U.S. NUCLEAR REGULATORY COMMISSION
BEFORE THE
SUBCOMMITTEE ON ENVIRONMENT, ENERGY AND NATURAL RESOURCES OF THE COMMITTEE ON GOVERNMENT OPERATIONS
U. S. HOUSE OF REPRESENTATIVES
MAY 29, 1980

Mr. Chairman, my name is Victor Stello, Jr. I am the Director of the Office of Inspection and Enforcement of the U.S. Nuclear Regulatory Commission. I am pleased to have the opportunity to discuss our Performance Appraisal program with the Committee. With your agreement, I propose to provide a brief introductory statement outlining the general characteristics of the program and providing some comment on testimony presented by members of my staff at yesterday's hearing.

The basic philosophy of the NRC inspection and enforcement program is that licensees are responsible for proper construction and safe operation of their facilities as well as for safeguarding their facilities and nuclear material. The role for the NRC is to assure that this responsibility is adequately discharged. The inspection and enforcement program that contributes to this assurance is a dynamic program. That is, as technical problems are identified and resolved, the program is modified and improved. This subcommittee has expressed interest in recent modifications of our inspection program associated with implementation of the Performance Appraisal Program. That effort must be viewed in the context of the "Revised Inspection Program".

In June 1977, the NRC approved a "Revised Inspection Program" that included stationing NRC inspectors on site (resident inspectors) at all operating reactor sites, at selected reactor construction sites, and at two fuel cycle facilities. The resident inspectors at the reactor sites are basically engineers qualified in construction or in reactor operations. The resident inspectors at the fuel cycle facilities are qualified in the area of material control and accounting. They perform health and safety as well as safeguards inspections. The resident inspectors conduct inspections over a broad range of activities for which they are trained and technically competent. In-depth technical inspections, beyond the resident's technical expertise, continue to be conducted by specialists assigned to the regional offices.

The deployment of the resident inspectors began in FY 1978. Full implementation, originally planned for FY 1981, is now targeted for the end of FY 1980. Moreover, the original implementation plan has been expanded to provide more than one resident inspector at operating sites, also to be accomplished by the end of FY 1980. This revised inspection program affords a balanced examination of licensee activities that contribute to safety, safeguards, and environmental protection. A significant increase in on-site inspection time is achieved by a resident inspector over that attainable by a region-based inspector.

The resident inspector approach provides the NRC with increased opportunity for direct observation of licensee operations and tests in progress, including more inspections of licensee activities conducted outside normal working hours. In addition, the revised program will increase NRC independent verification to confirm that which the licensee has performed and recorded. The purpose of the increased attention on independent verification is to gain greater confidence that the licensee is performing properly. The licensee will continue to remain responsible for conducting tests and examinations of all elements of the nuclear plant.

In addition to resident inspectors, the revised program includes the following:

- A national performance appraisal capability consisting of three elements: (1) an evaluation of the performance of NRC licensees from a national perspective, (2) an evaluation of the effectiveness of the NRC inspection program, and (3) confirmation of inspector objectivity.
- An increase in direct verification by the NRC that involves more independent measurement and direct observation of licensee activities and tests in progress.

These revisions to the inspection program preserve the NRC philosophy that the licensee is primarily responsible for all necessary safety, safeguards, and environmental measures. They are expected to (1) increase NRC knowledge of the conditions at the facility and provide a better base for regulatory action,

(2) lessen the reliance of the inspection program on the accuracy and completeness of licensee records, (3) provide improved assurance that the licensee's performance is acceptable, and (4) provide the capability to rapidly examine events (both on-site and off-site) and to determine the adequacy of related licensee actions and reports.

By conducting performance appraisal inspections, the NRC can obtain additional assurance of inspection program consistency and inspector objectivity. In addition, this capability provides for the appraisal of the regulatory performance of nuclear power plant licensees from a national perspective. Periodic critical reviews of selected areas of licensee activities provide insight into the performance of the licensee and the effectiveness of the overall inspection program and can provide information to evaluate objectivity of resident inspectors.

Performance appraisal involves assessment teams which make indepth reviews of various aspects of reactor construction and operation. The teams analyze inspection and licensee reports to identify potential weak spots and identify developing problems. The performance appraisal teams also independently evaluate the effectiveness of the inspection program and the objectivity of the resident inspectors.

Program performance appraisal is an essential function, with or without resident inspectors. However, since resident inspectors will be placed in an environment where they continually interact with licensee personnel, they are exposed to increased challenges to their objectivity. While we are building a number of mechanisms into our program to insure inspector objectivity, we nevertheless feel that it is prudent management to explicitly confirm the continuing objectivity of our inspectors through performance appraisal.

Our experience to date with the Performance Appraisal program has been favorable and has produced results we had anticipated. That is, we find that the assessments by the Performance Appraisal Teams have disclosed some licensee shortcomings that differ from previously attained results from routine regional inspections. In general, these differences have been associated with specific details rather than identification of new problem areas. Similarly, the results of Performance Appraisals completed thus far have generally affirmed the adequacy of the routine inspection program while identifying some specific areas in which further "fine tuning" of the program appears to be desirable. I should emphasize, however, that these results are very tentative at this stage since only limited experience with the performance appraisal effort is available. The program is still in the development stage; we are learning from our experiences and factoring that experience into programmatic adjustments. For example, I consider that the Oyster Creek appraisal, which I shall discuss further later, reflects the experience gained in the five appraisals that preceeded it in improved discipline in the manner in which it was conducted and in the incisiveness and preception of the conclusions reached by the team. I fully expect that subsequent Performance Appraisals will continue to take into account the experience we are gaining with each succeeding inspection.

At the present time the Performance Appraisal Branch is staffed with seven experienced inspectors against an authorized strength of 17. Our FY 81 budgeted strength for the branch is 24 professionals; FY 82-84 are forecasted for retaining that same level of manning. As you can see, staffing of the branch at the experience level we consider to be essential is very difficult in the face of competing demands for the same type of expertise.

The program is not without problems - problems that are, in general, not unusual in internal audit programs in high technology areas. One of the most significant problems is associated with management of a geographically dispersed work force. We have considered seriously the desirability of consolidating the Performance Appraisal Branch in one location, but we have refrained from implementing such a change because of the severity of the personal impacts on the affected staff, associated with the high cost and difficulty in selling and buying houses for their families. Frankly, we are afraid of losing some very talented people if we have to mandate such a change. The same factors are having a negative impact on our ability to select a permanent Branch Chief. In spite of such problems, I am pleased with the effectiveness and responsiveness of the staff in this new program.

In addition to the Performance Appraisal function, we are in the process of implementing a program for Systematic Assessment of Licensee Performance (SALP). This program involves a structured review of licensee performance by the regional inspection staff, the Performance Appraisal Branch and a review board of representatives of both the headquarters inspection staff and the licensing office. These assessments are to be performed on a scheduled basis with formal consideration of the results by senior staff of NRC, at the Office Director level. Testimony from previous witnesses has covered this subject in detail, so I shall not expand my prepared remarks further.

I believe it is appropriate to note here the increased attention by the nuclear industry to the concept~~s~~ of independent appraisals of licensee performance. We are aware of the establishment of the Institute for Nuclear Power Operations (INPO) and its public declarations of intent to provide reviews of utility activities along much the same lines as we are using in our programs for Performance Appraisal and Systematic Assessment of Licensee Performance. We will follow with interest the industry's efforts in this area.

At this time, I would like to offer some comments on the case at issue today, the Performance Appraisal of the Oyster Creek facility, located near Toms River, New Jersey. The Oyster Creek plant is operated by the Jersey Central Power and Light Company (JCP&L). JCP&L is a subsidiary of General Public Utilities (GPU) which is also the parent company of the Metropolitan Edison Company, the licensee for the Three Mile Island plant.

During the past fourteen months, GPU has understandably devoted a great deal of attention to the recovery operations associated with the March 28, 1979 accident at Three Mile Island. I do not wish to convey an impression that I believe this attention to Three Mile Island has resulted in undue inattention by GPU to Oyster Creek to the extent that it resulted in any unsafe conditions arising as a result.

I must also state that during the same period, the drain on our Region I staff arising from the post-TMI efforts in Pennsylvania has been extensive. Again, I do not offer this information in any sense of apology. I am convinced that our program at all the Region I facilities has met the needs of our routine program, but only by dint of exceptional effort by the staff involved. Furthermore, as regulators, we always seek to do more than enough to meet programmatic requirements. That extra effort we seek consistently has simply been very limited recently as a result of post-TMI demands.

The Performance Appraisal team identified seven areas of licensee activity at Oyster Creek for which management controls were considered to be poor: (1) fire prevention and protection during construction and modification; (2) training of unlicensed staff; (3) in-service inspection; (4) maintenance; (5) quality assurance audits; (6) radiation protection; and (7) radioactive waste management. In fairness, I should point out that the licensee had identified a number of these shortcomings independently and had initiated some action toward their resolution.

In addition, the team noted some areas of regional implementation of the inspection program for which improvements were needed. These were communicated to the Regional Director and he has responded with a program to address those concerns. The Regional Director and the headquarters Division Director responsible for the Performance Appraisal Branch and members of their respective staffs have also recently met and discussed these matters. Generally, the Performance Appraisal Branch believes that the Region I Office did perceive some of the problems with implementation of management controls at Oyster Creek and had identified them in several areas inspected; however, the Performance Appraisal Branch feels that the Region I Office did not perceive the commonality of these problems among a number of functional areas.

I expect some difference in views based on differences in perspective and inspection approach between the Performance Appraisal Branch and the Regional Offices. Their resolution is a responsibility I bear as Director of the Office. I believe such differences are healthy and help assure the effectiveness of the NRC inspection program and our continuing pursuit of methods to improve the way we fulfill our responsibility to assure protection of public health and safety.

Thank you, Mr. Chairman. I shall be happy to respond to Committee questions.

Mr. KOSTMAYER. Our next witness is Mr. Herman Dieckamp, president of General Public Utilities Corp.

Mr. Dieckamp, would you mind standing and raising your right hand? Do you swear to tell the truth, the whole truth, and nothing but the truth, so help you, God?

Mr. DIECKAMP. I do.

Mr. KOSTMAYER. Thank you very much. Please proceed.

STATEMENT OF HERMAN DIECKAMP, PRESIDENT, GENERAL PUBLIC UTILITIES CORP.

Mr. DIECKAMP. Mr. Kostmayer and members of the Subcommittee on Environment, Energy, and Natural Resources of the Committee on Government Operations, I am Herman Dieckamp; I am the president and chief operating officer of General Public Utilities, and I am a director of each of GPU's operating utility subsidiaries, including Jersey Central Power & Light.

Your letter of invitation states specifically—and I quote:

> The subcommittee would like to receive your testimony on several aspects of the PAB report on the Oyster Creek facility. You are invited in your corporate capacity to discuss GPU's views of the validity of the PAB report, its implications for GPU and Jersey Central management of the facility in the future, and GPU's plans for a new nuclear subsidiary and other operating changes that will affect Oyster Creek.

Members of Jersey Central Power & Light management; Dr. Shepard Bartnoff, president; Mr. Ivan R. Finfrock, Jr., vice president of generation; and Mr. Douglas Turner, health physics supervisor at Oyster Creek appeared before the subcommittee yesterday to address the specifics of the PAB report on Oyster Creek. I will not attempt today to comment on the detailed aspects of the PAB report or the Oyster Creek facility, but will attempt to respond to the more general thrust of the subcommittee's request.

First, with respect to the subcommittee's question concerning GPU's view of the validity of the PAB report and its implications for GPU and Jersey Central management of the facility in the future, our response to the PAB report was submitted to the NRC on March 17, 1980, and made part of the record of these hearings by reference in Dr. Bartnoff's testimony yesterday.

The Jersey Central response does not take exception to the factual contents of the PAB report. The PAB evaluation identified a number of areas of concern and confirmed several problems that we had previously identified and for which corrective action had been undertaken.

We accept the findings of the PAB report as indicative of areas for improvement in our overall management program. We have responded in a manner which we believe will gain maximum benefit from the PAB audit by making those procedural, personnel, manning level, and management changes necessary to strengthen the indicated areas of weakness.

An implementation plan was provided to the NRC in March. We have since met in late April with region I, after they had had a chance to review our response. The total response is a difficult challenge, but we are currently on schedule and are striving to maintain that posture.

I would like to interject at this point to follow up on yesterday's questioning and testimony and try to emphasize that our response included two parts: A specific response to the areas of indicated noncompliance, and a response to the areas of indicated need for management strengthening. In both of those areas there are identified actions to be taken and time scales for the completion of those actions.

So, with respect to the specific question of compliance, I would want it to be understood that the compliance is dependent upon the accomplishment of that schedule, as indicated in that report, and we are moving as rapidly as we can on that schedule and as of today are on track.

Again, I would want to say that some of these actions, particularly in the area of strengthening of the management systems, involve added personnel, added procedures, training of people and the like, and will take some time period. In general, most of them are to be accomplished by the end of this year, but we do still see some of these areas as requiring significant effort, and I would identify in that regard specifically the area of improving maintenance and health physics at the plant.

I do want to comment on the performance gradings in the report, specifically the indications of good, average, or poor.

We are unaware of the specific criteria or basis for these gradations. We further have found no evidence in the record that such gradations were assigned in other available PAB reports. Thus, we find it difficult to measure the PAB evaluation relative to others in the industry operating similar nuclear facilities. We do note that of the six PAB reports available to us to date, the scope and depth of the review of Oyster Creek seems greater than that for the other plants. It involved 752 hours of inspection compared with a range of 148–304 hours for the other plants. We also note that a comparison of the detailed observations portion of four PAB reports that include such information indicates that Oyster Creek's balance of strengths and weaknesses is not significantly different than that for the other three plants. Nevertheless, we are still committed to make the indicated and committed changes.

As a general matter, I have no objection to reports which carry a grade. I think it can be a useful mechanism for providing us an indication of which programs provide models of performance that we can look to for management approaches or techniques that we can adopt for ourselves in order to achieve better performance.

Second, I would like to respond to the request to comment on GPU's plans for a new nuclear subsidiary and other operating changes that will affect Oyster Creek. As a backdrop for those plans, it might be well to review GPU's past involvement in nuclear power.

We entered the nuclear age with the operation of the Saxton Nuclear Generating Station, a 5-megawatt pressurized water experimental reactor in western Pennsylvania, which started operating in 1963. Our next generating station was the 630-megawatt Oyster Creek plant on the New Jersey shore, which began operating in 1969. GPU's next plant was Three Mile Island unit No. 1, which began operating in 1974, and then Three Mile Island unit No. 2, which began operating during 1978 and was the scene of the accident on March 28, 1979. By early 1979, GPU's nuclear activities encompassed approximately 1,100 employees, of which about 300 were individuals with technical, professional degrees. The nuclear experience of those 300 technical professionals averages about 13 years each.

Some time before the accident, we had considered the merits of consolidating our nuclear operations, but there did not appear to be compelling reasons at the time. About 1 year or more prior to the accident, a decision was made to expand GPU's nuclear technical resources so as to enable an increased level of in-depth engineering and technical support to the operating plants. Since the TMI accident, we have reached the conclusion that we can enhance the management of our nuclear facilities by consolidation so as to provide one organization with single-minded dedication to the safe and efficient operation of all the nuclear facilities for the GPU system.

Our initial thought was to expand the charter of GPU Service Corp. to include nuclear operations. An SEC filing was made in April 1979 to effect this change. We have since concluded that a separate subsidiary would be preferable, and we are currently completing the SEC filing requirements necessary to establish GPU Nuclear Corp.

GPU Nuclear Corp. will not own the operating facilities, and as such will not be an operating utility. GPU Nuclear will provide the services necessary to operate the nuclear plants for the owning utilities.

The objectives of the GPU Nuclear Corp. are to: Elevate the stature of the nuclear operations within the GPU system, provide a full time dedicated management for the single purpose of safe and effective operation of all nuclear facilities, provide uniform policies and operational criteria for the operation of the facilities owned by the GPU subsidiaries, provide more and better in-house technical support, provide increased opportunities for career development and thus enhance the ability to attract and maintain key personnel, and enable personnel policies responsive to the specific needs of nuclear power.

GPU Nuclear will report to a board of directors composed of the presidents of the subsidiaries owning nuclear plants, the chairman and president of GPU, the president and executive vice president of GPU Nuclear, and the Service Company vice president for planning.

We have selected Mr. Robert C. Arnold to be the president of GPU Nuclear, and he will be assisted by Mr. Philip Clark as executive vice president. Each of the GPU nuclear plants will be managed by a vice president at the plantsite reporting directly to Messrs. Clark and Arnold.

In addition, the organization will include a technical functions group which will provide engineering and technical support to operations, a group entitled "Nuclear Assurance" which will provide centralized leadership at the corporate level to quality assurance, training, emergency planning, and safety audits.

GPU Nuclear will also provide centralized corporate level management and personnel for the radiation control and health physics coverage of all plants. The functions of budgeting, personnel, labor relations, procurement, wage and salary administration, and so forth will be provided by an administrative department. Each major headquarters activity—technical functions, nuclear assurance, radiologic controls, and administration—will be headed by a vice president of GPU Nuclear.

GPU Nuclear is currently in formation in terms of the key personnel and major activities, and we are proceeding to consolidate the headquarters functions. However, GPU Nuclear cannot be formally in force to operate the plants until the operating licenses for Oyster Creek and Three Mile Island have been amended so as to recognize the delegation of operating responsibility to GPU Nuclear. We would expect that that transition may require the remainder of calendar year 1980.

The specific impact of GPU Nuclear on the Oyster Creek facility will be increased management resources and control. Ivan Finfrock will move to the Oyster Creek site and devote his full time to the management of the Oyster Creek facility alone. Thus, we will have strengthened the level and presence of the management at the site.

Second, GPU Nuclear will provide increased engineering and technical support to the Oyster Creek operating staff. Beyond that, we would expect the headquarters radiologic control and nuclear assurance functions to begin to support the Oyster Creek site management with more active direction of the health physics program and by means of increased participation in training, quality assurance, and the in-house conduct of audits to assure proper procedures and management controls for safe operations.

I will be happy to respond to your questions.

Mr. Kostmayer. Thank you very much, Mr. Dieckamp. And thank you for being here. I know you have taken so much time to come to Washington; it has consumed a lot of your busy time.

On page 5 of your testimony, you mention some of the objectives of the GPU Nuclear Corp. Are these objectives intended to correct what you have regarded as deficiencies in the past?

Mr. **Dieckamp**. I would say that they are intended to strengthen our total ability to manage the plants. I am sure that, from our past experiences and our awareness of audit findings and the like, we certainly are always aware of the need for some improvements. So I would say that these are directed specifically at our recognition of those needs. And if one wants to call those recognitions of deficiencies, fine.

Mr. **Deckard**. Would the chairman yield on the point?

Mr. **Kostmayer**. Yes.

Mr. **Deckard**. I would like to ask of the relationship of this subsidiary. What authority, if any, will it have to effect changes if, perhaps, those changes run counter to what the parent organization feels should or should not be done?

Mr. **Dieckamp**. The only relationship between GPU Nuclear and the parent organization is the GPU Nuclear will report to a board of directors, and the members of that board of directors are the presidents of the operating utilities, specifically Jersey Central as one—Dr. Bartnoff as one specific individual. And also on that board of directors will be the chairman of GPU Corp. and myself, and then Mr. Arnold and Mr. Clark.

We will be granting to GPU Nuclear the full responsibility to conduct the operations safely and effectively.

Mr. **Deckard**. But, in fact, they will be fully responsible to the parent organization. Is that not correct?

Mr. **Dieckamp**. I think that is true in the same sense that I think that all of us are always responsible to somebody.

Mr. **Deckard**. So, really, what changes have we effected? I do not see that there is any difference between this organization and the other. It may represent a consolidation, but as far as authority to make any meaningful changes is concerned, they still report to the same people they reported to before.

Mr. **Dieckamp**. I think that is correct; one could look at this as just a juggling of the chart or a juggling of the boxes.

Mr. **Deckard**. Perhaps another word may be cosmetics.

Mr. **Dieckamp**. I suppose someone could call it that.

What has guided us in coming up with this approach is the feeling that this would provide for us an organization that had no other objectives; its objective is solely and singly the operation of the nuclear facilities. The key people would have no responsibilities relative to fossil fire generation; they would have no responsibilities relative to State regulatory rate cases and things of that sort.

As I indicate on page 5 of the statement, we think it is important also to elevate the stature of the organization; we think it is important to do the kinds of things that will help us attract and maintain key personnel and to have personnel policies and procedures and approaches which are specifically designed to deal with the special challenges of nuclear power.

So I really think that there is substance to this approach that will add emphasis to the nuclear program within GPU.

Mr. **Deckard**. I was interested in page 3 of your testimony with respect to the PAB reports. You say, "Thus, we find it difficult to measure the PAB evaluation relative to others in the industry operating similar nuclear facilities."

My question is this. It seems to me that when it comes to the matter of nuclear safety, there should be objective standards rather than subjective standards, and you seem to be saying, "Our operation may be bad, but perhaps not, compared with other facilities." Are you suggesting we should grade on a curve, or should there not be objective standards for safety in the nuclear industry?

Mr. DIECKAMP. I think there certainly should be objective standards. I think there are such standards. I think they are the regulations and the requirements for specific compliance with those regulations. But beyond the specifics of those regulations—the black and white of those regulations—when we begin to talk about management and management controls, we do talk about a subjective area. And, as a matter of fact, the bulk of the PAB report directs itself to subjective areas of management rather than black and white standards of performance.

So I think it is a combination of both of those things that is required.

Mr. DECKARD. Do you feel that a similar inspection conducted by PAB at all other nuclear facilities around the country would reach generally the same conclusions that it reached with respect to Oyster Creek?

Mr. DIECKAMP. I think you would find that each plant would have its own strengths and weaknesses. I think the difficulty that we have—and I guess it is the reason we are here in this forum today—is that the Oyster Creek PAB review was the first one that assigned the gradings of poor, average, and good to various areas of our performance.

Mr. DECKARD. Disregarding other nuclear plants for the time being, do you feel that the results of the PAB inspection with respect to Oyster Creek were generally accurate and fair—perhaps not compared with other plants, but objectively with Oyster Creek?

Mr. DIECKAMP. When we look at the observations section, which is the principal portion of the PAB report, that relates to these gradings, and we look at the long list of items of identified desirable contents or required contents of a management program, we are able to relate to, I think, essentially all of those and not have a particular argument about their assignment of whether it was a strength or a weakness or an in-between information item.

The place where we do run into trouble is trying to relate that spectrum of observations down to a summary grade because we have seen no evidence of an objective basis for making that grade.

Mr. DECKARD. So, for a moment, disregarding your objection to the rating system, I infer from your answer that you are saying, "Generally, yes, the deficiences—if that is the word we should use—uncovered, we generally have no argument with?"

Mr. DIECKAMP. And I think the best indicator is the fact that our response to the PAB report was one to accept those findings as indications of need for improvement and to set forth a plan and program to improve our capabilities in those areas.

Mr. DECKARD. I simply make the observation that, if you feel, generally, the results of their inspection on an objective basis presented some worthwhile recommendations, the problems uncovered at Oyster Creek would not be unique to Oyster Creek but would be found throughout the entire nuclear industry, then that says something, I think, about the safety-related aspects of the nuclear industry in general.

That is all that I have, Mr. Chairman.

Mr. **Dieckamp**. If I may comment on that, Mr. Deckard, I think it was stated yesterday in the hearing that none of the PAB reports, including Oyster Creek, found anything that was considered unsafe. The PAB reports, however, looked at the broad spectrum of activities necessary for managing a nuclear plant and tried to identify strengths and weaknesses.

I think that any point in time one will be able to look at an operation and make such observations. I think it is our obligation and our responsibility to respond to those kinds of observations and try to continue to make the indicated improvements.

Mr. **Kostmayer**. Mr. Dieckamp, I am wondering if this reorganization will make things a little tougher to follow and keep track of—that they will be a little murky. For example, you would have now GPU Nuclear and Met Ed separately. Is that right?

Mr. **Dieckamp**. Yes. Met Ed would have no nuclear operations within its direct management chain. The president of Met Ed would oversee GPU Nuclear by means of his seat on the GPU Nuclear board of directors.

Mr. **Kostmayer**. Who would make application to the Public Utility Commission in Pennsylvania, for example, for a rate increase?

Mr. **Dieckamp**. Metropolitan Edison.

Mr. **Kostmayer**. I see.

Who would be subject to a loss of license by the NRC?

Mr. **Dieckamp**. Certainly Metropolitan Edison and the other—I think the license will always be issued to the owner.

Mr. **Kostmayer**. Which, in this case, would be Met Ed?

Mr. **Dieckamp**. That is correct.

Mr. **Kostmayer**. Would there be any legal action possible on the part of the company if a license were revoked—if Met Ed's license was revoked, would you ever contend in court that GPU Nuclear should still be permitted to operate because it was a separate subsidiary?

Mr. **Dieckamp**. I find it hard to deal with that question in the abstract. I would think that Metropolitan Edison will be able, or Jersey Central will be able to exert their influence on GPU Nuclear just as if that were an integral part of their organization. I see no real distinction as to why they would not be able to exert significant influence.

Mr. **Kostmayer**. They are the owner.

Mr. **Dieckamp**. That is right.

Mr. **Kostmayer**. Is there some question in your mind as to what kind of influence they would be able to exert?

Mr. **Dieckamp**. No; there is not in mine.

Mr. **Kostmayer**. And there is no possibility that you would contend in court that loss of license by Met Ed would still permit GPU to operate?

Mr. **Dieckamp**. I am sorry, Mr. Kostmayer. I really do not follow the question.

Mr. **Kostmayer**. Is there a distinction there as to the loss of license? Does the loss of license by the company mean a loss of license by the subsidiary? Or could they continue to operate? Is it a separate license? Why make a distinction?

Mr. **Dieckamp**. Certainly, if Metropolitan Edison was to lose its license for Three Mile Island because of some dereliction of duty of GPU Nuclear, that certainly would have ramifications on the total operation that we would have to consider at the time and in the light of the specifics of what had caused that. There is no question about that.

Mr. **Kostmayer**. Let me ask you, if I may, about a report with which you may be familiar, which was prepared by Nuclear Power Consultants, Inc., on the Oyster Creek facility. Are you familiar with that? It was prepared at the behest of the company.

Mr. **Dieckamp**. I have read that report.

Mr. **Kostmayer**. Can you tell me when it was given to managers of the plant there?

Mr. **Dieckamp**. No; I cannot tell you that, but I think we would be happy to provide that information for the record.

Mr. **Kostmayer**. It is my understanding that the report is dated January 31, 1980, but was not provided to the plant manager until late April—until, in fact, this subcommittee requested information on the Oyster Creek plant. Is that correct, or do you know?

Mr. **Dieckamp**. I have no reason to question that.

Mr. **Kostmayer**. Do you think it is true?

Mr. **Dieckamp**. I have no reason to question that. I personally do not know when it was given to the plant.

Mr. **Kostmayer**. Do you know if there was a delay? Do you know if they did not receive it until they did receive word from the subcommittee that we had some interest in this subject? There is a delay here, apparently, of several months.

Mr. **Dieckamp**. Yes.

Mr. **Kostmayer**. Do you know why?

Mr. **Dieckamp**. No; I do not know why. I have inquired about that.

Mr. **Kostmayer**. Apparently it did point up some deficiencies in the Oyster Creek plant, but your corporate offices waited 4 months before you gave it to the local plant manager. I am wondering why.

Mr. **Dieckamp**. Well, let us back up to what that report is and how that report relates to Oyster Creek.

That report is in response to a requirement to, every 2 years, perform an assessment of the degree to which the quality assurance program is achieving its objectives. Probably the most difficult portion of that report is that it points out some personnel or some attitude/morale problems at Oyster Creek. Those problems were known prior to that report.

Also, that report was made and delivered to the man in charge of quality assurance, including quality assurance at Oyster Creek, Mr. Gaines. So, in that sense, the report and its implications for quality assurance were directly available to the segment of the organization responsible for quality assurance at Oyster Creek.

Mr. **Kostmayer**. And directly available to them before April 1980?

Mr. **Dieckamp**. Mr. Gaines received the report in January.

Mr. **Kostmayer**. He is not at the site, though.

Mr. **Dieckamp**. He is not at the site, but Mr. Gaines quality assurance people are at the site.

Mr. **Kostmayer**. And they received it also, then, I assume, in January?

Mr. **Dieckamp**. I cannot answer that because I, personally, do not know.

Mr. **Kostmayer**. I have no further questions.

Mr. Deckard?

Mr. **Deckard**. Not at this moment, Mr. Chairman.

Mr. **Kostmayer**. Mr. Dieckamp, we are waiting for Congressman Moffett to return; he does have some questions for you and should be back here shortly. I wonder if it is acceptable to you if we recess for 10 minutes?

Mr. **Dieckamp**. Surely.

Mr. **Kostmayer**. Thank you. We apologize for the delay.

Mr. **Dieckamp**. It is quite all right.

Mr. **Kostmayer**. The subcommittee will stand in recess for about 10 minutes.

[Recess taken.]

Mr. **Moffett** [presiding]. The subcommittee will come to order. I thank the witness and the members for their patience. We have the NRC budget being considered in the other subcommittee on which I sit.

I understand that many questions that interest the Chair have been asked, and I am grateful that the members have explored those areas and for your responses, Mr. Dieckamp.

I do have a question regarding the cost confronting GPU because of the TMI accident. It is rather obvious that the cleanup program is not going very well there. It will take months and months of additional time and, of course, a great deal of money. Do you have any solid cost estimates for that total cleanup there?

Mr. **Dieckamp**. I would not be able to say to you that we have a solid cost estimate. We have a cost estimate that was made approximately 1 year ago which indicated an approximate time scale and cost for the cleanup and restoration of the plant of about $400 million and about 4 years.

We are right now in the process of revising that cost estimate, or making a new estimate. We have had 1 year of experience with the rate at which work is able to proceed, as limited by a number of factors. We have had some opportunity to gain some data and information. We have had additional specific indications of requirements placed upon the project. I think we are going to find that the new estimate will show a significant increase over the $400 million estimate.

I would also want to point out that there is $300 million worth of property damage insurance available to offset that cost to the extent it can.

Mr. **Moffett**. You must make filings, do you not, with the various utility commissions and with the SEC with regard to outstanding liabilities such as the TMI cleanup. What do you tell them?

Mr. **Dieckamp**. So far we have told them the best information that was available to us based upon the cost estimate of last year, and as soon as the new estimate is complete, we will be doing the necessary disclosures and filings that are required.

Mr. **Moffett**. Is there any way that the rather extraordinary costs here with regard to the cleanup might have a negative impact on the management of the Oyster Creek facility in terms of the resources available for that facility?

Mr. **Dieckamp**. I think it is an open matter that the company has experienced difficult financial implications as a result of the requirement to purchase replacement power. We have had a considerable amount of action on the part of Pennsylvania and the New Jersey regulatory commissions to begin to take care of that problem.

I think perhaps one indicator of that is to look at the budget that is available to Oyster Creek, and I think that this year, for example—1980—the Oyster Creek budget will be something on the order of $20 million or more. I think that, as we ourselves in the past have tried to look at our expenditures for operating and maintenance and for construction improvements and retrofits to the plant, we have found that our willingness to provide the necessary dollar resources are among the highest in the industry.

I might also point out that this year we are devoting something in excess of $25 million to retrofits, modifications, improvements, and upgrades for compliance to the Oyster Creek plant.

Mr. **Moffett**. You mentioned this amount of expenditure in comparison with other utilities. Speaking of those kinds of comparisons, I think I noticed you earlier shaking your head in a negative fashion in the audience when I made the characterization that Jersey Central had indicated opposition to grading or ranking. Maybe that is not quite accurate.

I need to know—and I think we all need to know here—whether you have any objection to grading utilities performance. Apparently you do not have any objection. Is that correct?

Mr. **Dieckamp**. I state on page 3 of my testimony that, as a general matter, I have no objection to reports which carry a grade. We have, however, objected to this specific PAB report and its specific grades because we are unaware of the criteria, and our own analysis of it and the other reports available to us do not suggest an internal consistency that is consistent with that grade.

Mr. **Moffett**. You apparently told the staff that you felt the NRC could, in fact, do more to provide the industry with the kinds of benchmarks that it needs to know in order to know the state of the art, the practices in other utilities and so forth. Is that correct?

Mr. **Dieckamp**. I do not know whether I exactly said that they could do more or not. I think what I may have said, if I recall that conversation, is that I thought that one of the things that would be helpful to us is if the NRC, on occasion, were to say to us, "You ought to go look at 'so-and-so's' program," or, " 'So-and-so' has an example of an outstanding good program," so that we could go and inquire as to exactly how that result was being achieved, because I think this is a complicated field. I do not think that each of us should be inventing the wheel on our own. I think we should be benefiting from each other's experience.

I would hope, also, by the way, that that can be one of the major benefits of the new Institute for Nuclear Power Operations—INPO—that the industry is putting in place.

Mr. **Moffett**. Yesterday, we heard testimony about the Oyster Creek isolation from the rest of the industry. We heard about the failure to use those inflatable seals when the rest of the industry was using them to reduce radiation exposure, as you may recall.

Does this PAB type nationwide comparative inspection effort contribute, in your view, to ending such damaging isolation in providing those kinds of industrywide benchmarks?

Mr. **Dieckamp**. I think it could contribute. Again, if we were able to look at the other PAB reports and find that company so-and-so in this particular area of procurement, or health physics, or something, received an above-average good grade, or something like that, I think that would encourage us to look at that company and see what we could learn from them. I do not see it as getting down to the specific details as the example that was brought up yesterday in one of the questions.

Mr. **Moffett**. I see.

Mr. **Dieckamp**. I see it in a more general kind of a sense.

Mr. **Moffett**. I understand; you have made yourself clear on that point.

One thing about the specific problems found at Oyster Creek by this PAB team, or by other inspections, is this. If you look at them on a list and take them one at a time, in many cases, they appear to be rather small details. But, as I think you have indicated in the past, this industry is one where meticulous attention to detail is very, very necessary since it is so uniquely complex and potentially dangerous as a technology.

I assume that you feel there is much more attention needed to detail in the nuclear industry than in, say, the fossil fuel industry.

Mr. **Dieckamp**. I certainly do. Indeed, I feel that nuclear power and nuclear safety demand and require a considerable or extreme attention to detail. I think, at the same time, we have a difficult problem to prioritize those details so as to make sure that critical problems and critical parameters are not somehow inundated by extraneous detail that does not contribute to safety.

So, while there is indeed a requirement for extreme detail, I think there is also a requirement for prioritizing of efforts.

Mr. **Moffett**. Mr. Dieckamp, we want to thank you for your appearance here today and your general cooperation with the subcommittee, and hope that these hearings are helpful to your company as well as to our responsibility to have the NRC do their job properly. We thank you very much.

Mr. **Dieckamp**. Thank you.

Mr. **Moffett**. The subcommittee stands adjourned.

[Whereupon, at 11:55 a.m., the subcommittee adjourned, to reconvene subject to the call of the Chair.]

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APPENDIXES

APPENDIX 1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

JAN 4 1980

Docket No. 50-219

Jersey Central Power and Light Company
ATTN: Mr. Ivan R. Finfrock
Vice President
Power Generation
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

Gentlemen:

This refers to the management inspection conducted by Messrs. A. N. Fasano, A. T. Gody, D. G. Hinckley, B. Murray, W. D. Shafer and M. V. Sinkule from the Headquarters Performance Appraisal Branch of the Office of Inspection and Enforcement on October 1-5, 15-19, 29-31, November 1, 2 and 6-8, 1979, of activities authorized by NRC Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station at Toms River, New Jersey, and Company Offices in Morristown, New Jersey. This also refers to the discussion of the findings held with you and others of your staff on November 8, 1979 at your general offices.

The enclosed Inspection Report No. 50-219/79-18 identifies the areas examined during the inspection. Within these areas, the inspection consisted of a comprehensive examination of your management controls over licensed activities which included an examination of procedures and records plus extensive interviews with many of your management and supervisory personnel.

This inspection was one of a series of management appraisal inspections being conducted by the Performance Appraisal Branch under the Office of Inspection and Enforcement. The results of this inspection will be used to evaluate the performance of your management control systems on a national perspective. The enclosed inspection report addresses the findings, observations, and the conclusions from this inspection, which will provide the basis for the subsequent performance appraisal. In addition, the inspection findings are being evaluated regarding further enforcement actions which are under consideration at this time. You will be notified by separate correspondence regarding this matter. Paragraph 2 of the report provides further information regarding the findings and how they will be utilized.

In accordance with Section 2.790(d) of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, your facility security procedures are exempt from disclosure; therefore, the pertinent section of the inspection report, Appendix 'A', will not be placed in the Public Document Room and will received limited distribution.

Jersey Central Power and Light
Company

JAN 4 1980

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you or your contractor believes to be proprietary, it is necessary that you make a written application within (5) days to this office to withhold such information form public disclosure. Any such application must include a full statement of the reasons on the basis for which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely,

Boyce H. Grier

Boyce H. Grier
Director

Enclosure: IE Inspection Report No. 50-219/79-18

cc w/encl:
J. T. Carroll, Station Superintendent (without Appendix A)*

* Contains 2.790 Information

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

PERFORMANCE APPRAISAL BRANCH

Report No. 50-219/79-18

Docket No. 50-219

Licensee: Jersey Central Power and Light
Company
Madison Avenue at Punchbowl Road
Morristown, NJ 07960

Facility Name: Oyster Creek Nuclear Generating Station

License No. DPR-16

Inspection At: Oyster Creek Nuclear Generating Station, Toms River, NJ, and Jersey Central Power and Light Company General Offices, Morristown, NJ

Inspection Dates: October 1-5, 15-19, 29-31, November 1, 2 and 6-8, 1979

Inspectors: A. N. Fasano — A. N. Fasano 12-19-79

A. T. Gody — A. T. Gody 12/19/79

D. G. Hinckley — L. E. Foster for 12/19/79

B. Murray — Blaine Murray 12/19/79

W. D. Shafer — W D Shafer 12-19-79

M. V. Sinkule — M V Sinkule 12/19/79

Accompanying Personnel: L. E. Briggs

*E. Blackwood

*Present only during exit interview on November 8, 1979.

Approved By: J. E. Gagliardo, Acting Chief
Performance Appraisal Branch

12/19/79

Inspection Summary

Inspection on October 1-5, 15-19, 29-31, November 1, 2, and 6-8, 1979 (Report No. 50-219/79-18)

Areas Inspected: Special, announced inspection of the licensee's management controls over licensed activities. The inspection involved 752 inspector-hours in the corporate office and at the site by six NRC inspectors.

Results: Of the fifteen areas inspected no items of noncompliance or deviations were found in six areas; sixteen apparent items of noncompliance were found in nine areas (infraction - failure to provide independent verification when removing/placing tags, jumpers, and leads, paragraph 3; infraction - fire doors blocked open, paragraph 4; infraction - inadequate drawing, paragraph 4; deficiency - failure to follow procedures, paragraph 4, infraction - inadequate procedures, paragraph 4; infraction - failure to follow procedures, paragraph 5; infraction - inadequate document control storage, paragraph 5; infraction - failure to follow procedures, paragraph 7; infraction - failure to establish HP training program, paragraph 7; infraction - inadequate corrective action to QA findings, paragraph 11; infraction - failure to audit, paragraph 11; deficiency - improper storage identification of weldrod, paragraph 12; infraction - failure to establish calibration procedures, paragraph 13; infraction - failure to survey effluent releases, paragraph 14; infraction - failure to analyze Standby Gas Treatment System charcoal absorbers for removal efficiency, paragraph 14; deficiency - failure to report, paragraph 17).

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DETAILS

1. Persons Contacted

The following lists (by title) the individuals contacted during this inspection. The matrix to the right of the listing indicates the areas (number corresponds to paragraph number in the report) for which that individual provided significant input. Other individuals were contacted during the inspection but the extent of their input to the inspection effort was not significant to the findings delineated in this report.

Title of Individual General Office	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
*President															
*Vice President, + Generation	X	X	X	X	X	X	X	X	X	X	X	X	X		X
*Assistant Vice President, Generation					X			X							
*Manager, Generation Station Nuclear	X	X		X	X	X	X	X	X	X	X	X	X		X
*Manager, Generation Engineering	X	X	X	X	X	X				X					
*Manager, Operational + Quality Assurance	X		X	X	X			X	X		X	X	X		
+Manager, Environmental Affairs	X			X			X		X				X		
Manager, Generation Administration	X														
+Director, Material Management					X					X					
Director, Procurement					X					X					
Manager, Contracts					X					X					
Manager, Material System Management										X					
Manager, Safety and Security					X										X
*Director, Generation, Construction, Maintenance and Contract Services			X		X			X							
Manager, Generation, Maintenance Services			X		X			X							
Manager, Generation, Construction and Maintenance			X		X			X							
Supervisor, Welding					X			X							
Supervisor, Records Management	X		X					X							
+Supervisor, Engineering Projects Generation (2)		X	X		X	X				X					

Title of Individual	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
General Office															
Supervisor, Nuclear Safety and Licensing	X	X		X		X									
Supervisor, Environmental Science and Monitoring	X			X							X	X	X		
Nondestructive Examination Engineer					X	X									
ISRG Members (2)					X		X								
Quality Assurance Engineers (2)	X		X	X	X		X		X	X	X	X	X		
Project Engineers (2)		X			X	X									
Instructor, Generation Welding					X										
Quality Assurance Auditors (2)	X		X	X	X	X	X		X	X					
GPUSC Nuclear Analysis Manager	X			X											
Staff Engineer, Generating Station, Nuclear	X			X											
ISRG Secretary							X								
Senior Engineer						X							X		

Title of Individual	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
On-Site															
**+++Station Manager	X	X	X	X	X	X	X	X	X	X	X	X	X		X
**++Unit Superintendent	X		X	X	X		X	X	X		X	X	X		
**++Plant Support Superintendent	X		X	X	X		X	X	X			X	X		
**++Director, Station Administration	X			X	X						X				X
Supervisor, Station Mechanical Maintenance	X			X	X		X	X	X						
Supervisor, Station I&E Maintenance	X		X	X	X		X	X	X		X	X			
Supervisor, Station Operations	X		X	X	X		X	X	X		X	X			
Supervisor, Health Physics	X				X		X		X		X				
Supervisor, Station Services															
Supervisor, Document Control	X		X		X	X		X							
Security Supervisor															X
Training Supervisor			X		X				X		X	X	X		
Administration Supervisor	X														
Technical Supervisor	X			X											
**++Quality Assurance Supervisor	X	X	X	X	X	X		X	X	X	X	X	X		X

Title of Individual On-Site	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
**++Engineering Supervisor	X			X			X		X						
Chemical Supervisor	X			X								X	X		
Group Shift Supervisors (3)	X	X	X	X	X	X		X		X	X	X			
Nuclear Plant Control Room Operator "A" (2)	X			X	X				X						
Nuclear Plant Control Room Operator "B" (3)	X		X	X	X			X	X						
Nuclear Plant Equipment Operator "A" (2)	X		X		X			X							
Nuclear Plant Equipment Operator "B"															
Group Mechanical Maintenance Supervisor			X		X			X							
Mechanical MTC "A"			X		X			X							
Mechanical MTC "B"			X		X			X							
Group I&E Supervisor			X		X			X							
Electrical MTC "A"			X		X			X							
Electrical MTC "B"			X		X			X							
Quality Assurance Engineer			X		X			X	X						
Health Physics Technicians (6)											X				
Assistant Health Physics Technicians (4)											X				
Rad Chem Engineer															
Health Physics Analyst (2)											X				
Health Physics Group Supervisors (3)											X				
PORC Secretary							X								
Quality Assurance Specialist (2)					X				X		X	X	X		

Title of Individual	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
On-Site															
Stores Supervisor					X					X					
Plant Stock Keeper					X					X					
Assistant Security Supervisor													X		X
Administrator, Generation/ Security Technical Training					X										X
Site Protection Officer													X		X
Communications Supervisor													X		X
Chemistry Technicians (4)												X	X		
Contractor, United Testing Lab						X									
Site Engineer (3)		X			X	X				X	X				
Site Purchasing Agent					X					X					
Management Control Supervisor					X	X	X		X						

*Attended Exit on October 5, 1979
**Attended Exit on October 19, 1979
++Attended Exit on November 2, 1979
+Attended Exit on November 6, 1979

2. Inspection Scope and Objectives

This report documents the inspection by the NRC/OIE Performance Appraisal Branch (PAB) of the licensee's management controls of licensed activities. The objective of the inspection was to determine how the licensee performs licensed activities, the results of which will provide input to the PAB evaluation of licensees from a national perspective.

The inspection effort covered licensed activities in selected functional areas. In each of the functional areas the inspectors reviewed written policies, procedures, and instructions; interviewed selected personnel and reviewed selected records and documents to determine whether:

a. The licensee had written policies, procedures, or instructions to provide management controls in the subject area;

b. The policies, procedures and instructions of (a) above, were adequate to assure compliance with the regulatory requirements;

c. The licensee personnel who had responsibilities in the subject areas were adequately qualified, trained, and retrained to perform their responsibilities;

d. The individuals assigned responsibilities in the subject area, understood their responsibilities;

e. The requirements of the subject area had been implemented to achieve compliance and activities sampled had been appropriately documented.

The inspection findings in each of the selected areas are presented in subsequent numbered paragraphs. The specific findings in each area are presented in three parts.

The first part contains the enforcement findings which document any identified items of noncompliance, deviations, or unresolved items. The corrected actions for these findings will be evaluated by the Regional Office, which will also process enforcement action and closeout the items.

The second part of each area addresses other lesser inspection findings and is entitled "Observations." These are observations that the inspectors believe to be of sufficient significance to be considered in the subsequent evaluation of the licensee's performance. The observations include the perceived strengths and weaknesses in the licensee's management controls for which there exists no well defined regulatory requirement or guidance. The observations also include information about the licensee or his management controls which cannot be categorized as a strength or weakness, but are items that could be of significance in evaluating management control systems if they are later found to be generic to licensee's having success in the subject area, or to those licensees having problems in the area.

The observations in this report have been classified into one of three categories. The classification is indicated at the end of each observation by a code letter in parentheses. The code letter "S" is used to indicate a perceived strength, the code letter "W" is used to indicate a perceived weakness, and the code letter "I" denotes an informational item. Since there is no regulatory basis for these observations, enforcement action relative to the observations is therefore not appropriate, and the licensee is not required to take action regarding them. The licensee is requested, however, to review the observations, with particular emphasis to those categorized as weaknesses, to determine their application to his management controls and Quality Assurance Program in maintaining or improving his organizational effectiveness regarding the safety of his operation.

The third part contains the conclusions made by the inspector responsible for that area. The conclusions are presented as good, average, or poor and represent the inspector's evaluation of the licensee's management controls.

Review and Control of Licensed Activities

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls over licensed activities and the adequacy of the program for reviewing, monitoring and auditing the performance of licensed activities by all levels of management.

a. Documents Reviewed

(1) Operational Quality Assurance Program

(2) Oyster Creek Final Safety Analysis Report (FSAR), Chapter XII

(3) Jersey Central Power and Light Company Policy Manual

(4) Generating Department Procedures

- 2004, revision 0, Document Control
- 2005, revision 0, Document Retention System
- 2007, revision 0, Preparation and Submittal of Documents to Regulatory Commissions
- 2010, revision 0, Test Control
- 4001, revision 0, Quality Assurance Organization, Responsibilities, Authorities, and Qualifications
- 4008, revision 7, Requirements for the Operational Quality Assurance Audit Program

- 5002, revision 0, Manager-Nuclear Generating Stations Fuel Management
- 6001, revision 0, Generation Engineering Organization and Responsibilities

(5) Station Administrative Procedures

- 101, revision 8, Organization and Responsibility
- 103, revision 5, Station Document Control
- 106, revision 4, Conduct of Operations
- 107, revision 12, Procedure Control
- 108, revision 12, Control of Tagging, Electrical Jumpers, Lifted Electrical Leads, Keys and Locked Valves
- 114, revision 0, Testing
- 116, revision 4, Surveillance Test Program Schedule and Review of Test Results
- 119, revision 2, Housekeeping

(6) Completed Operating Procedure Records

- 201.1, Approach to Criticality, September 18, 1979
- 204.1, Scram Recovery, September 17, 1979
- 213.1, Plant Shutdown from Hot Standby, March 26, 1979

(7) Completed Surveillance Test Procedure Records

- 610.4.002, Core Spray Pump Operability Test, June 15, July 12, August 7, August 9, August 10, and September 6, 1979
- 607.3.002, Containment Spray System Automatic Actuation Test, September 14 and 30, 1979
- 619.3.006, Rx Triple Low Water Level Test and Calibration, July 12 and August 2, 1979
- 617.4.001, CRD Pump Operability Test, July 30, 1979
- 617.4.002, CRD Exercise and Stall Flow Test, July 15, 1979

(8) Technical Specification Log Sheets, October 1-10, 1979

(9) Equipment Status Log, October 13-23, 1979

(10) Control Room Status Sheets, October 1979

(11) Group Shift Supervisor's Log, October 1979

(12) Control Room Required Reading File

(13) Control Room Turnover Sheets, September 1979

(14) Standing Order Book

(15) Quality Assurance Finding Analyses for Surveillance Testing Activities, March 27, 1979, and Maintenance, March 27, 1979

(16) Operational Quality Assurance Branch Department Functional Descriptions

- NDE Specialist Branch
- QA Surveillance Branch
- Site Procurement Quality Assurance Branch
- QA Specialist

b. Findings

(1) Items of Noncompliance

Technical Specification (TS) 6.8.1 states that "Written procedures shall be established, implemented and maintained that meet or exceed the requirements of Section 5.1 and 5.3 of American National Standard N18.7-1972---." Section 5.1.5 of ANSI N18.7-1972 states that procedures provided for control of equipment, "shall require independent verification, where appropriate, to insure that necessary measures, such as tagging of equipment, have been taken correctly."

The licensee's control of equipment procedure 108, Control of Tagging, Electrical Jumpers, Lifted Electrical Leads, Keys and Locked Valves, did not provide for independent verification, where appropriate, to insure that placement/removal of tags, jumpers and lifted leads had been performed correctly. This is an apparent item of noncompliance (219/79-18-01).

(2) Deviations

None.

(3) Unresolved Items

(a) Station Administrative Procedure 106, Conduct of Operations, revision 3, Section 4.2.2, gave the Control Room operator the authority to shut down the reactor when instructed to do so by the Group Shift Supervisor; when required by Station Emergency Procedures; or when the verified operating parameters should have initiated a scram and no scram had occurred. The procedure gave the Group Shift Supervisor the authority to shut down the reactor when in his/her judgment a situation existed which jeopardized or threatened to jeopardize public or plant safety. ANSI N18.7-1972 states that the responsibility and authority to shut down the reactor when in his/her judgment a situation exists which jeopardizes or threatens to jeopardize public or plant safety, shall be that of the reactor operator.

Discussions with the Unit Superintendent indicated that Station Administrative Procedure 106 would be revised to give this authority to the reactor Control Room operator during periods when the Group Shift Supervisor was not present in the control room. This item will remain unresolved pending revision of Procedure 106 (219/79-18-02).

(b) Regulatory Guide 1.33, Appendix A, requires that an administrative procedure be established for the control of jumpers and bypasses. A review of the licensees' administrative procedures indicated that no procedure had been established for the control of mechanical jumpers or bypasses. This item is unresolved pending additional review to determine the need for such a procedure (219/79-18-03).

(c) Examination of records of completed procedure 617.4.001, CRD Pump Operability Test, July 30, 1979, and completed procedure 617.4.002, CRD Exercise and Stall Flow Test, July 15, 1979, indicated that acceptance criteria was not met and reasons for the acceptability for the test were not recorded on the Surveillance Backsheet. During the exit interview on November 2, 1979, licensee representatives stated that these items had been adequately resolved. This item will remain unresolved pending further review to determine the adequacy of the corrective action (219/79-18-04).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) The Jersey Central Power and Light Company (JCP&L) organization was as shown on Figures 6.2.1 and 6.2.2 of the Oyster Creek Technical Specifications (TS). The Station Manager provided information which indicated that turnover of personnel at the station from January 1, 1979, through August 31, 1979, due to terminations and transfers within the company were as follows:

. Supervisory Personnel - 7.3%
. Non-Bargaining Unit Personnel - 19.7%
. Bargaining Unit Personnel - 16.7% (I)

(2) Licensee management had recognized the need for additional personnel at the station and at corporate headquarters. They stated that authorization had been received to hire 28 more personnel at corporate and 71 at the station in the engineering, maintenance, and operations areas. To facilitate a larger support staff, the station organization was reorganized on September 5, 1979. (S) Plant administrative procedures were upgraded to reflect the reorganization approximately one (1) month later (W). As an interim measure, the station manager issued a memorandum to Station Supervisors delineating reporting and notification requirements until procedures had been upgraded. (S)

Discussions with licensee management indicated that certain procedures, such as emergency procedures, were being upgraded to reflect the new organization. Other procedures would be upgraded as periodic review programs were implemented. (W)

(3) A corporate philosophy of operations statement was contained in the Operational Quality Assurance Program (OQAP). (I)

(4) Corporate policy had been developed and was contained in the OQAP, Section VI. This section covered the following areas.

- Switching and Tagging
- Jumper Control and Lifted Lead Control
- Job Orders
- Surveillance Test
- Control Room Logs
- NCR/CA System (S)

(5) Station procedures had been established assigning responsibilities and delineating requirements for control of the areas delineated in (4) above. (S)

(6) The responsibilities of the JCP&L management staff were contained in the Operational Quality Assurance Program and in Station Procedure 101 (S). Written position descriptions were provided; however, they were general in nature and not designed to help the supervisor understand his job responsibilities (W). The corporate QA group was developing functional job descriptions. (S)

(7) A formal appraisal program for evaluating the performance of supervisory personnel had been established. (S) No formal program had been established for evaluating the performance of bargaining unit personnel, except for an appraisal at the completion of the employee's probationary period and periodic evaluations of licensed operators. (W)

(8) No formal programs had been established to insure that tours of the facility were conducted by corporate and station managers and supervisors (W). The results of interviews indicated that visits and tours were conducted as follows, however, they were not documented.

- The Vice-President, Generation, stated that he spent approximately four (4) days per month conducting tours of the station and conducting meetings with personnel.

- The Manager, Nuclear Generation, stated that he normally visited the station once each two weeks to assist in the resolution of administrative or technical problems.

- The Manager, Generation Engineering, stated that he normally visited the station two (2) or three (3) times each month to assist in resolution of engineering problems. He also stated that prior to and during refueling outages , approximately one-half of his time was spent at the station.

- The Station Manager stated that he normally toured the plant weekly to review the operating logs and to observe housekeeping conditions.

- The Unit Superintendent stated that normally he toured the facility daily and reviewed the operating logs.

- The Operations Supervisor stated that he conducted weekly tours of the plant to observe housekeeping conditions and licensed activities. (S)

(9) A written system had not been established to insure employee accessibility to management in the event of a safety concern. (W) Licensee management stated that they felt the absence of a formal system was not a problem. They stated a formal system had been established for the reporting of 10 CFR 21 items and JCP&L had an open door policy for employees. (S)

(10) Interviews with the Nuclear Analysis Manager, General Public Utilities (GPU), indicated that the Nuclear Analysis Group, GPU, was responsible for fuel procurement and for performing backup core performance analysis for JCP&L. A written control procedure specifying interfaces with JCP&L and reporting requirements for deficiencies in core performance had not been established. (W)

(11) JCP&L had developed a corporate procedure specifying interface responsibilities with GPU at the corporate level for fuel management and for providing core performance data. In practice, core performance interfaces with GPU concerning core performance data were handled at the station level by the Technical Supervisor. Interviews with personnel from GPU and JCP&L indicated that the established communications channels were effective. (S)

(12) The surveillance testing required by Section 4 of the TS was controlled by administrative procedures and scheduled by the department supervisors. The Operations Supervisor developed a Master Surveillance Schedule on a yearly basis. Department supervisors used this schedule for development of monthly and weekly schedules. (S)

The surveillance testing was performed by use of approved procedures. Administrative controls provided for supervisory review with overview by the Station QA department. (S)

(13) Procedure 108, Control of Tagging, Electrical Jumpers, Lifted Electrical Leads, Keys and Locked Valves, did not contain provisions to ensure that the requirements of 10 CFR 50.59 would be satisfied for providing a written safety evaluation to justify that a jumper did not involve an unreviewed safety question if the system was described in the FSAR. (W)

(14) Station Administrative Procedures did not require a periodic review of tags to verify the continued need for the clearance and to determine whether the tags were still in place (W). Operating procedures did require a review of the Tagging and Switching Log prior to startup to verify that essential equipment was not tagged out of service. (S)

(15) Station Administrative Procedure, 114, revision 0, Testing, required the Plant Operation Review Committee (PORC) to review special tests to verify that an unreviewed safety question did not exist. No requirement was established for providing a written safety evaluation for the PORC determination if the test was not described in the FSAR. (W)

(16) No formal programs had been established to insure that meetings would be conducted by corporate and site managers with their subordinates. (W) Interviews with corporate and site managers and supervisors indicated that they met with their subordinates concerning operational problems and future activities as follows.

- The Vice President, Generation, stated that he normally conducted weekly meetings with the managers who reported to him.

- The Manager, Nuclear Generation, stated that he or a member of his staff was in verbal communications with the Station Manager on a daily basis for effective flow of communication.

- The Station Manager stated that he conducted meetings with his superintendents on an "as needed" basis. He also stated that the meetings were usually weekly.

- The Unit Superintendent stated he conducted daily meetings with the Operations and Maintenance Supervisors. He also stated that normally he briefed the Station Manager concerning results of the meetings.

- The Operations Supervisor stated that normally he did not conduct formal meetings with the Group Shift Supervisors that reported to him, however, he was in communication with them daily during shift change and during operating events. (S)

(17) Mechanisms had been established to assure that the Generation Department Vice President and managers that report to him receive all incoming NRC correspondence, QA Audit Reports, Operational Reports and Licensee Event Report (LERs). Distribution below this level was at the discretion of the managers. (S)

(18) Mechanisms had been developed at the station for distribution of NRC Inspection Reports, QA Audit Reports, and LERs to the Station Manager and the superintendents that reported to him. (S) Distribution below this level was at the discretion of the superintendent. Generally, these documents were not communicated, or made available to, nonsupervisory employees unless the document identified a problem specifically related to the employees' area of responsibility. (I)

(19) Outgoing correspondence to NRC Headquarters was reviewed and signed by the Vice President, Generation. Responses addressed to the Regional Office of the NRC were signed by the Manager of Nuclear Generation. (S)

(20) Copies of the Regulations and the Regulatory Guides were maintained in the Nuclear Affairs Department at corporate. A copy of the Regulations was contained in the Document Control Center at the site. The inspector observed that a copy of the Regulations maintained by the training group was out of date. Discussions with the Station Manager indicated that no program existed to insure that up-to-date copies of the Regulations and Regulatory Guides would be available to site personnel (W). He stated that measures had been taken to obtain up-to-date copies of the Regulations and Regulatory Guides for distribution. (S)

(21) Copies of the codes and standards were available at the station and at corporate; however, the distribution of these documents were not controlled. (I)

(22) Controlled distribution of documents such as Technical Specifications and Departmental Procedures had been established at corporate. The Plant Document Control Center controlled distribution of Plant Procedures, the Master Surveillance Schedule and Standing Orders. The distribution system provided for verification of document insertion into the controlled copies. (S)

(23) Supplements to the FSAR had been issued for major design changes. Minor changes were reported to the NRC through the annual operating reports (S). Copies of the annual reports were not kept with the master copies of the FSARs. Controlled distribution of the FSAR was not provided. A master copy of the FSAR was contained in each Document Control Center. (W)

(24) The corporate managers interviewed stated that they did not receive and review, on a routine basis, operating records or logs

from the Oyster Creek Plant. They did note that they received a daily (morning) report of the plant status and monthly operating reports. (I)

(25) Operating records were reviewed by the Group Shift Supervisor and the Operating Supervisor on a routine basis. The operating records were not distributed to the Station Manager and the Unit Superintendent for review.

The Station Manager stated that he reviewed PORC minutes, design changes, procedure changes, and new procedures routinely.

The Unit Superintendent stated that he did not routinely review operating records, except during tours; however, he did review all records and documents transmitted to the PORC. (I)

(26) The Vice President stated that he ordered special audits performed by off-site contractors or corporate management personnel in the Health Physics and Maintenance areas. He also stated that currently an audit was scheduled for the Operations area. (S)

(27) The concensus of personnel in the operations area interviewed felt that there was a morale problem in the operations area. Various reasons were given as a probable cause. Discussions with the Director, Generating Stations, Nuclear indicated that he had identified morale problems in the Health Physics and Maintenance areas and that he had recognized the need for concentrating on the human factors aspects of operations. (W)

(28) Specific responsibilities had been assigned for administering other NRC issued licenses, such as those for licensed operators and for the use of special nuclear material. Personnel interviewed were aware of the individuals who were administering the programs under the types of licenses. (S)

(29) Specific comments regarding the technical adequacy of General Plant Operating Procedures are contained in paragraph 16 of this report. (I)

(30) The individuals interviewed appeared qualified to perform their duties and were aware of the responsibilities of their position. (S)

d. Conclusions

The licensee had developed corporate policy and station administrative procedures for the control of licensed activities. Generalized responsibilities had been outlined in the Operational Quality Assurance Program and in Administrative Procedures. Job descriptions for personnel had been developed as a device for management to justify a position rather than for the employee to understand his responsibilities.

The program did not provide for several provisions which are not required by the regulations as follows.

- Performance appraisal of bargaining unit personnel
- Management inspections on backshifts to witness licensed activities
- Assurance that employees will have accessibility to management in the event of a safety concern
- GPU had not delineated interfaces with JCP&L or reporting requirements for identified deficiencies in fuel or core performance data

Several discrepancies were identified in the administrative controls in that they were not consistent with ANSI N18.7-1972 as follows.

- The equipment control procedures did not provide for independent verification for removing/replacing equipment from/to service.
- Operator responsibilities

Several discrepancies were identified in the administrative controls which would allow possible infractions of the Regulations as follows.

- The control of equipment did not insure that the provisions of 10 CFR 50.59 would be met.
- Provisions had not been established for the control of mechanical jumpers.
- Special Test Procedures did not insure that the provisions of 10 CFR 50.59 would be met.

The licensee had implemented a program that conformed to regulatory requirements and commitments with the exceptions delineated in references 3.b.(1) and 3.b.(3). These discrepancies were believed to be significant although they were not considered unusual. Overview by QA and the safety committees appeared to be adequate, and personnel appeared to be qualified to perform their responsibilities. There was indication that training and management of activities could be improved in an effort to raise morale of operations personnel. The licensee had recognized the need for additional personnel to allow for more training of operators and additional technical support for operations and was in the process of obtaining additional personnel.

The inspector reviewed noncompliance data for the past year and Licensee Events for the past three years and concluded that an improvement in performance was not evident. It appeared that a number of management actions were recently taken which should improve performance; however, it was much too early to make such a determination.

The overall evaluation of the licensee's management controls in this area is average.

4. Management of Fire Prevention/Protection

The objective of this portion of the inspection was to determine the extent and adequacy of management's overview of Fire Prevention/Protection. The objective also included the inspection of implementing Fire Protection modifications and Fire Protection/Prevention procedures as related to Generation Engineering, Construction, Quality Assurance and Plant Operation.

a. Documents Reviewed

(1) Jersey Central Power and Light (JCP&L) - Oyster Creek Nuclear Generating Station, Unit No. 1 Amendment to Provisional Operating License, No. 29 (Related to Fire Protection)

(2) Attachment to License Amendment No. 30 to the Technical Specifications Provisional Operating License No. DPR-16 (related to Fire Protection)

(3) Fire Protection Safety Evaluation Report by the Office of Nuclear Reactor Regulation, USNRC, in the matter of JCP&L Company Oyster Creek Nuclear Generating Station Docket No. 50-219

(4) Procedures Related to Fire Protection

- 645.4.005, revision 4, 4/9/79, Fire Detection Channel Functional and Alarm Circuitry Test
- 645.4.001, revision 5, 5/31/79, Fire Pump Operability Test
- 645.4.004, revision 2, 9/27/78, Fire Suppression Water System Valve Lineup Verification
- 645.1.007, revision 0, 10/17/78, Fire Protection System Flush
- 645.1.009, revision 0, 3/7/79, Cycling of Spray and/or Sprinkler System Valves
- 645.4.010, revision 0, 10/1/79, Fire Suppression Multimatic Valve Functional Test

- 645.1.003, revision 3, 10/13/78, Fire Hose Station, Hose House and Fire Hydrant Inspection
- 645.1.008, revision 0, 2/13/79, Fire Hose Re-Rack and Blockage Check
- 645.1.006, revision 0, 8/30/78, Fire Hose Hydrostatic Testing
- 101.2, revision 1, 10/5/79, Fire Protection Organization and Responsibilities
- 119, revision 2, 9/1/78, Housekeeping
- 119.1, revision 1, 10/5/79, Fire Protection Inspection
- 120, revision 5, 10/12/79, Fire Hazards
- 526.1, revision 1, 9/13/78, Fire in Plant Areas Other Than the Control Room
- 526.2, revision 2, 5/10/79, Fire in the Control Room
- 905.7, revision 8, 10/12/79, Fires
- 120.1, revision 5, 10/12/79, Welding, Burning and Grinding Administrative Procedure
- 745.1.001, revision 3, 8/11/78, Inspection and Maintenance of Portable Fire Extinguishers
- 905.32, revision 10, 1/15/79, Fire Drill
- 333, revision 6, 2/9/79, Fire Protection System
- 658.2.001, revision 1, 5/31/79, Battery Operated Emergency Lighting Testing
- 915.5, revision 1, 8/29/79, Respirator Protection
- 700.1.009, revision 2, 11/6/78, General Concrete Core Drilling Procedure
- 6009, revision 0, 5/7/76, Installation, Fabrication, Engineering Test and Inspection Specifications
- 108, revision 15, 10/12/79, Control of Tagging, Electrical Jumpers, Lifted Electrical Leads, Keys and Locked Valves

(5) Letter, March 19, 1976, from Forked River Voluntary Fire Company No. 1 to Oyster Creek, Subject: Confirmation to Response to Fires at Oyster Creek

(6) Letter, October 12, 1979, from JCP&L to NRR, Subject: Fire Protection - Request for SER Supplement

(7) Memorandum, June 19, 1979, Subject: Emergency Breathing Apparatus

(8) Letters, April 7, 1978 and September 22, 1978 from JCP&L to NRR - Discuss Fire Protection Program

(9) Memorandum, October 6, 1978, Subject: Fire Inspection Report, Oyster Creek NGS.

(10) Drawing No. A-800-204-001, revision 0, Type 1 Support

(11) Drawing No. A-800-204-002, revision 2, Type 2 Support

(12) Drawing No. A-800-204-003, revision 2, Type 3 Support

(13) JCP&L, Quality Data Record, Form 4012-01, revision 1, Procedure Evaluation

(14) Memorandum, May 15, 1979, (GP-79-739), Subject: Fire Protection Water System Field Changes

(15) Procurement Specification 218-77-23, revision 0, 11/13/78, Fire Protection Water System

b. Findings

(1) Items of Noncompliance

(a) 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, and OQA Plan, Section X, require that "activities affecting quality shall be described by documented instructions, procedures or drawings...and shall be accomplished in accordance with these instructions, procedures or drawings."

Procedure 120, Fire Hazards, Revision 5, 10/12/79, paragraph 5.1.4 states that "stairway and fire doors shall be kept closed at all times when not being used for passage." Paragraph 5.1.12 states that "all wood used in safety related areas will be fire retardant."

On October 24, 1979, while touring the reactor building for an inspection of work progress on fire protection equipment installation, it was noted that three fire/hall doors were blocked open. The doors included the 480V hall door, the cable spreading room door, and the 119 foot elevation fuel storage area door. Upon entering the fuel storage area it was observed that the general area contained wooden crates and fuel element packing boxes. Work was in progress on removal and storage of fuel elements. Some fuel element packing boxes were in an open and empty state. The empty boxes were observed to contain packing material that appeared to be cardboard and a foam plastic. The inside surface of the fuel element packing boxes were unpainted. A request was made for documentation showing that the excess material in the area was treated so that it would be fire retardant. During a subsequent tour of this area the inspector noted that the excess fuel element packing boxes had been removed. The above noted conditions constituted an apparent item of noncompliance (219/79-18-05).

(b) Reference 4.b.(1)(a) for similar requirements specifically related to drawings used as supplementing procedures.

Drawing A-800-204-001 lacked information to validate thread engagement requirements for the mechanical units required to be assembled and makeup the pipe support strut assembly. Threads in question included the end caps to rods and end caps to pipe requirements. Drawing A-800-204-002, required the use of two nuts for the installation of the "U" clamps for the described pipe support.

On October 24, 1979, while inspecting the installation of the fire protection water system piping the inspector noted that installation of the struts required an assembly process and that the end caps had no sight hole to assure thread engagement. The end cap end wall thickness was less than the diameter of the rod being used which indicated a further need for thread engagement assurance. Discussions with the licensee and review of instructions indicated a lack of information to install and/or check for such assurance.

The "U" clamps, prior to assembly, were observed to be stored in the general area, 51 foot elevation, Reactor Building, with one nut per leg. Installed "U" clamps in this area were with one nut per leg. The drawing indicated a need for two nuts per leg, which would assure a locking feature. The above noted conditions constituted an apparent item of noncompliance (219/79-18-06)

(c) Reference 4.b.(1)(a) for similar requirements.

Procedure 700.1.009, General Concrete Core Drilling Procedure, revision 2, Document Serial No. 217, paragraph 3.1 required that a Job Order be initiated and paragraph 5.13 required that the job supervisor sign the data sheet and attach the Job Order form. Paragraph 5.1.4 required the completion of the requirements of the Job Order.

On October 30, 1979, the inspector reviewed field records for a concrete core drilling and determined that a job order had not been completed. Interviews indicated that this was a problem and a check for documentation was being performed. The lack of job order completion constituted an apparent item of noncompliance (219/79-18-07)

(d) 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures and Drawings, and OQA Plan, Section X require that "activities affecting quality shall be prescribed by documented instructions, procedures or drawings... and shall be accomplished in accordance with these instructions, procedures and drawings."

The Oyster Creek Quality Assurance Plan (OQAP), revision 2, Page 59 prescribed the use of ANSI N45.2.8 guidance to be used in conjunction with the OQAP. The Fire Protection System was listed in Part I of Appendix A of the OQAP, the Quality Assurance Systems List, which made the guidance of the referenced standard applicable.

Procedure 6009, revision 0, 5/7/76, Installation, Fabrication, Engineering Test and Inspection Specifications, paragraph 5.7.2 addressed installation, fabrication, engineering, test or inspection requirements with respect to the ANSI standards. In particular paragraph 5.7.2 stated that "some examples of the types of requirements to be considered for inclusion are as follows: Grouting requirements for equipment foundations and for penetrations; bolt torquing and locking requirements."

On October 24, 1979, while inspecting the installation of fire protection water systems, an abandoned anchor boring was identified. The hole was located in the Reactor Building at the South East corner of the 51 foot elevation in close proximity of the final installed anchor bolt for the in place pipe support. Discussion indicated that the hole was abandoned because of rebar interference. Discussions also revealed that written instructions were not available to address action when rebar was contacted; the relocation distance allowed for the placement of a new anchor bolt; and for approved grouting requirement for the abandoned hole. This condition constituted an apparent item of noncompliance (219/79-18-08)

(2) Deviations

None.

(3) Unresolved Items

(a) The Operational Quality Assurance Plan, page 85, paragraph VI.1.p required that periodic inspections of materials subject to degradation such as fire stops, seals and fire retardant coatings were to be performed. Interviews indicated that listings of fire stops and seals had not been developed. Appropriate listings would be required to meet the intent of the OQAP and to perform systematic checks. Base data for the appropriate listing could be traced to the effort accomplished in answering NRR as described in letter, August 1, 1978 from JCP&L to NRR, Subject: Fire Protection - Door and Penetration Analysis. This was identified as an unresolved item pending the licensees development of a systematic inspection of fire stops, seals, etc (219/79-18-09).

(b) The Fire Protection Safety Evaluation Report, Table 3.1, item 3.1.12, Engineering Breathing Apparatus, required re-evaluation as to acceptable completion status. The document reviewed (4.a(7)), indicated that positive pressure type breathing units were needed which negated the use of purchased Bio-Pak 45 units. This was identified as an unresolved item pending the licensee's resolution for a required breathing apparatus inventory (219/79-18-10).

(c) Procedure 108 defined the control for locked valves; however, control of locked valves for the fire protection area were not included in this procedure. This is identified as an unresolved item pending the licensee's review of current key control practice for Fire Protection locked valves and a review of procedure 108 (219/79-18-11).

(d) Procurement Specification 218-77-23, Fire Protection Water System, paragraph 7 required instruction manuals and a spare parts list. These documents had not been received. The status of installation documentation requirements for this specification to allow for a controlled, coordinated installation of the Fire Protection System appeared to be needed. The specification as it was written and substantiated with supporting documentation appeared to lack installation specification status (reference 4.a(4), procedure 6009).

The above item was related to purchasing (Section 12), but was listed here because the implications were closely related to findings in the Fire Protection installation area.

This was identified as an unresolved item pending Generation Engineering review of Specification 218-77-23 and associated specifications for Fire Protection system installation to assure adequate instruction for the modification (219/79-18-12).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) The Fire Protection Organization was described in procedure 101.2 and in the submittals to the NRC (references 4.a.(8)). Discussions indicated that the fire protection program including the program administration was to be revised and resubmitted to the NRC (NRR). (I)

(2) Procedure 101.2 defined the responsibilities, functions, authority and qualifications of the Plant Fire Protection Specialist (FPS). The FPS had a general engineer job description, not specific to a Fire Protection Specialist. The FPS's supervisor (Supervisor Station Services), would be the acting FPS in the absence of the assigned FPS. There were no requirements prescribed for the alternate to have special training. The procedure allowed the supervisor to delegate a designated representative. (W)

(3) The PORC Chairman could direct the FPS to review plant system modifications that could affect fire safety. Discussion with the FPS indicated that he was not aware of specific guidance to the PORC Chairman that would assure transmittal of information on such affected modifications. (W)

(4) Information was available in the Fire Brigade Training file to identify available brigade personnel for crew assignments. (S)

(5) Controls over combustibles and ignition sources were addressed in procedure 119.1. Procedure requirements included an outline for a monthly tour of the plant by the FPS. Procedure 119 addressed housekeeping requirements. (S)

(6) Fire prevention guidelines were addressed in procedure 120. The prohibition of combustion generated smoke for leak testing where safety related systems could be affected was addressed. The use of fire resistant material in any penetration into or out of safety related areas was stressed. Fire retardant requirements were specified for all wood used in safety related areas. (S)

(7) Procedures had been written that provided guidance to control room personnel in the event of fires within the plant, in the control room and within the station site. (S)

(8) Fire doors were posted but the local Fire Department/control room fire call number were not conspicuously posted. (W)

best copy available

(9) Procedure 120.1 set requirements and established guidelines and practices for safe welding, burning and grinding operations. A special work permit system, involving maintenance personnel and the FPS, was employed for control and used when these special processes were to be employed. Fire watches were required. (S)

(10) The FPS had a fire extinguisher inspection check list which specified the station number, type of extinguisher, and the location; 199 stations were listed. Procedure 745.1.001 provided instructions for the inspection and maintenance of portable fire extinguishers. Checklist use and schedules of inspection were specified. The procedure also addressed acceptance criteria requirements. (S)

(11) The shift turnover and job orders provided the control room operators with information on modifications and maintenance activities in progress at the plant. (I)

(12) Procedure 905.32 described the action that was to be taken to test the response of station personnel to a simulated fire condition. This procedure specified drills to be conducted once every 3 months, and that each operating fire brigade would perform in a drill at least once every year. (S) Fire Drill reports were required to be completed by the FPS on Form HP-905.32-1 and sent to the Supervisor, Radiation Protection instead of the Supervisor, Station Services. (W)

(13) Discussions with the FPS indicated that there were no specified requirements for upper management to periodically assess the effectiveness of a fire drill or the fire training. (W)

(14) There was no listing of qualified personnel designated for fire watch duty. (W)

(15) Procedure 658.2.001 addressed testing requirements for battery operated lighting at 50 locations. The battery operated lights were tied into site emergency power. (I)

(16) Communication test procedure designated as 658.4.002 was being reviewed for final approval. (I)

(17) The prefire plans necessary for deployment of special portable equipment and turnoff valve instructions (i.e., Emergency Generator fuel supply), remained to be developed. Discussion with the FPS indicate that such plans were committed to the NRC for completion by December 1979. (I)

(18) The licensee employed a fire consultant from Professional Loss Control, Inc., Oak Ridge Tenn. His position was described in reference 4.a(8). (I)

(19) A letter dated August 29, 1979, from the Lacy Township -Forked River Fire Department stated that their equipment could be at the site in 8 minutes with 4 pumpers, one ladder truck and 20 men

during day time hours. During night hours 6 pumpers, one ladder truck, and 35-40 men could respond. Mutual aid with other fire departments would permit an increased availability of resources if required. (I)

(20) Fire protection surveillance procedures did not contain a specific Technical Specification reference. The procedures did not require the notation of a time when a defect was noted in the fire protection system. Most of the fire protection Technical Specifications required a posted fire watch within a specified time after a defect was noted. Most of the procedures did not reference specific schematics. The TS frequency requirement was not always stated in the procedure. (W)

(21) TS 4.12-1A, which required the operable fire detectors functional tests once per 6 months, was addressed in procedure 645.4.005. The deluge system No. 3 (dry system) heat sensor actuation for circuitry checks was not addressed as part of the tests. (W)

(22) Procedure 645.1.007 required the use of oil and grease, but did not specify the type to be used. (W)

(23) Procedures to implement TS 4.12.B.d and 4.12.c.1.b(2)(3) remained to be written and PORC approved. TS 4.12.c.1.b.(2)(3) was in a "time grace period" for implementation of the surveillance. (I)

(24) The licensee was not performing surveillance on the fire protection seals. (W)

(25) The master surveillance schedule contained the fire protection scheduled surveillance. The performance of surveillance was controlled through various department managers. Plans were to change the surveillance procedure cover sheet to include a routing requirement through the Fire Protection Specialist. (I)

(26) The Fire Protection Specialist interfaced with the division level NRC Licensing coordinator on responses affecting the Fire Protection Plan. He also was in contact with the Monmouth County Police Department for special training. (S)

(27) The GPU fire task force performed an audit of the Fire Protection function. The audit was performed by safety directors. (S)

(28) The Fire Protection Water Systems Procurement Specification, 218-77-23, was also considered the installation specification. Discussion indicated that it was a weak to inadequate specification for installation and needed Generation Engineering assistance for procedural development. (W)

(29) The preoperational testing for the fire protection water system and sensors remained to be developed along with turnover procedures to operations. (W)

(30) Use was made of a form called Field Revision Authorization for documenting changes in the field for fire protection system installations. The forms were maintained in the field with copies sent to site QA and Generation Engineering. The Field Revision Authorization was described in an internal memorandum (4.a(13)). Changes were made on installation drawings at the work site and were initialed and dated. (I)

(31) The drawings used for the pipe support installation of fire protection systems lacked details. The drawings required additional notes, instructions, and references to manuals or documents. (W)

(33) The Site Construction Engineer indicated that he had not been given special briefings on methods to be employed to perform his function. He was assigned tasks and learned as he performed the job. (W)

d. Conclusions

The Fire Protection Program at Oyster Creek was behind schedule for completion of the installations and required refinement in administrative procedures. Most of the procedures required for implementing the requirements of the Technical Specifications had been written and were in use. Management had chosen to assign the implementation of this area to a responsible individual designated as the Fire Protection Specialist. He would require upper management support in the performance of his responsibilities. Management overview appeared to need strengthening and open communications to the fire consultant needed to be addressed. The licensee's Fire Protection Program as implemented was average. When the program is fully implemented, it could result in a good program.

The main area of concern was the coordinated construction effort for the installation of the fire protection systems. The implementing installation specifications/procedures lacked completeness. There was a need for closer cooperation between Generation Engineering and Site Quality Assurance in the development of Quality Assurance Surveillance criteria. There was a need for closer coordination between Generation Engineering, Generation Construction, and Plant Operations in the administrative control over major modification projects such as the fire protection systems. The licensee's management controls in this area were poor.

5. Design, Engineering and Modifications

The objective of this portion of the inspection was to determine the adequacy of management controls associated with engineering, design changes, and modifications.

a. Documents Reviewed

(1) TS 6.0, Administrative Controls

(2) JCP&L, Generation Division, Operational Quality Assurance Plan, revision 2

(3) Operational Quality Assurance Manual Procedures

Generation Department

- 2002, Nonconformance and Corrective Action, revision 2
- 2004, Document Control, revision 0
- 2005, Document Retention, revision 0
- 2006, Modification, Non-Routine Maintenance and Repair, revision 0
- 2009, Control and Distribution of As-Built Drawings, revision 0
- 2014, Document Center, Organization and Responsibilities, revision 0

Operational Quality Assurance

- 4001, Quality Assurance Organization, Responsibilities and Qualifications, revision 1
- 4005, Operational Quality Assurance, Control of Nonconformances and Corrective Action, revision 1
- 4012, Procedure for the Preparation and Use of Quality Assurance Checklists, revision 2

Nuclear Generating Station

- 5001, Management Organization, Responsibilities, Authorities, and Qualifications, revision 1

Generation Engineering

- 6001, Organization and Responsibilities, revision 0
- 6002, Training of Generation Engineering Personnel, revision 0
- 6003, Modification, Non-Routine Maintenance, and Repair, revision 1

- 6009, Installation Fabrication Engineering, Test, and Inspection Specifications, revision 0

Generation Construction and Maintenance Department (GCMD)

- 7001, Organization Responsibilities, Authorities, and Qualifications, revision 0
- 7002, Training of Generation Maintenance Personnel, revision 0
- 7003, Generation Maintenance Document Control, revision 0
- 7005, Generation Maintenance Repair, Maintenance and Modification Control, revision 0

(4) Site Administrative Procedures

- 101, Organization and Responsibility, revision 7
- 101.1, Plant Operations Review Committee (PORC), Action Items, revision 1
- 103, Station Document Control, revision 4
- 105, Maintenance, Repair, and Modification Control, revision 7
- 112, Oyster Creek, Calibration of Maintenance Test and Inspection Tools, Gauges, and Instruments, revision 6
- 114, Testing, revision 0
- 118, Preventative Maintenance, Administrative Procedure, revision 2
- 120.1, Welding, Burning, and Grinding, Administrative Procedure, revision 4

(5) GCMD, Administrative Guideline, revision 0

(6) Memorandum, 10/25/79, Goals and Objectives, Plant Support Engineering Personnel

(7) Memorandum, 11/5/79, J. L. Sullivan to J. T. Carroll, Goals and Objectives, Operations/Maintenance/Management Control

(8) Oyster Creek, Nonconformance/Corrective Action Report Tabulation Run, 8/1 through 8/31, 1979

(9) Memorandum, 10/26/79, Identifying the following Modifications

- Engineering Task (ET) 210, 125 VDC Upgrade
- ET 211, Torus/Drywell Differential Pressure Instrument
- ET 213, CRD Water Quality
- ET 297, CSHX Piping Mod.
- ET 312, DG Annunciator
- ET 313, DG Louver

b. Findings

(1) Items of Noncompliance

(a) 10 CFR 50, Appendix B, Criteria V, Instructions, Procedures, and Drawings, and OQA Plan, Section X, require that activities affecting quality be prescribed by documented procedures and accomplished in accordance with those procedures.

Licensee's Administrative Procedure 105, Maintenance, Repair, and Modification Control, revision 5 required the following steps to be accomplished.

- 5.2.7 required that PORC shall ensure that plant operating procedures were updated to include changes required as a result of modifications.
- 5.2.8 required that following the implementation of a modification the Manager, Generation Engineering shall assure that "As-Build" drawings were revised.
- 5.1.3 required maintenance which could affect the performance of safety related equipment will be properly preplanned and performed in accordance with written procedures, documented instructions or drawings.

Contrary to the above, Operating Procedures 316 and 316.1, and Burns & Roe Drawings 2003 and 2004 were not revised after completion of modification 213, CRD Water Quality, in November, 1978. Also during this modification, additional work, consisting of weld removal and replacement, was performed on a Q-list valve without using written procedures, documented instructions or drawings. This constitutes an apparent item of noncompliance (219/79-18-13).

In discussions with a licensee representative, the licensee stated that the work performed on the valve was within the scope of the modification package; however, after reviewing the modification package, the only document addressing the subject valve was Weld Procedure Specification (WPS) 111-R5. The inspector was informed that WPS 111-R5 was written after the work had been accomplished in order to document what was done.

(b) Technical Specifications, 6.10.3 requires that Quality Assurance Records shall be retained as specified by the Quality Assurance Plan.

The licensee's Quality Assurance Plan, Section III, Operational Quality Assurance Program, revision 2, requires the licensee to maintain a duplicate file system, consisting of a corporate document center and a duplicate center at the Oyster Creek site.

Contrary to the above, modification packages 211, 297, and 313 were not filed at the Oyster Creek document center as required. The modification packages were later reviewed at the corporate office except for modification package 297 which the licensee could not find. This constitutes an apparent item of noncompliance (219/79-18-14).

(2) Deviations

None.

(3) Unresolved Items

The licensee's method for implementing a modification at the site included the requirement to write an implementing procedure for each modification. The content of these procedures was determined by the specific requirements imposed in the modification's installation specifications.

While reviewing several of these implementing procedures, it was noted that a significant number of temporary changes were made to these procedures at the time the modification was being installed. In discussions with site and corporate management the inspector was informed that the Technical

Specifications allowed temporary changes to be made as long as the change did not change the intent of the procedure. However, the licensee could not identify who was responsible for reviewing the temporary change for a possible change in the intent of the design. As a result of these discussions the licensee had issued a draft procedure, covering review responsibility and the specific requirements to assure a complete review prior to implementation. This was identified as an unresolved item (219/79-18-15).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) The licensee had a written program to assure that all aspects of a modification were properly addressed prior to and after the implementation of a design change. There were six phases of work that were followed depending on the complexity of the modifications.

- Phase I, Initiation of Task
- Phase II, Preliminary Evaluation
- Phase III, Concept Development
- Phase IV, Design
- Phase V, Implementation
- Phase VI, Closeout (S)

(2) No significant concerns were identified in the first four phases of the licensee's program. In Phase V of the program the modification passed from the Generation Engineering Department to the GCMD or the Site Maintenance Department. Generation Engineering, while maintaining ultimate responsibility for the modification acted only as a consultant to GCMD or site maintenance during the implementation phase of the modification. (I)

(3) Once a modification package was sent to GCMD or plant maintenance for implementation, it was that organizations responsibility to develop the special implementing procedure to accomplish the work. This procedure was then reviewed by PORC for safety considerations. (S) The Generation Engineering Department did not review the procedure to assure that all requirements of the modification's installation specifications were met. It appeared that this lack of review contributed to the numerous temporary changes made to the procedure once the work started. (W)

(4) In Phase VI of the licensee's modification program the project engineer in the Generation Engineering Department was required to compile all records related to the task and turn them in for final approval and ultimate filing in the document control center. The project engineer retained the records in his personnel file thereby preventing the document control center from functioning correctly. (W)

(5) The licensee had recently reorganized the corporate office engineering support groups. At the time of this inspection departmental procedures were being written to incorporate the reorganization changes. These procedures were not available for review. (I)

(6) GCMD had issued administrative guidelines identifying the working relationship between GCMD and the Generation Engineering Department. These guidelines defined the functional responsibilities agreed to between the two departments and appeared to serve as an interim measure until the department procedures were rewritten. (I)

(7) As a result of the reorganization, GCMD had several key positions in the organizational structure unfilled. The licensee was actively recruiting personnel for these positions and stated that during the interim they will continue to use outside contractor personnel. (I)

(8) Generation Engineering Procedure 6003, revision 1, section 3.4 stated the cognizant engineer was directly responsible to the project engineer for the satisfactory completion of a task assignment. The procedure implied that the cognizant engineer was within the Generation Engineering organization when in fact the cognizant engineer could be and was assigned to a different organization. (I)

(9) Procedure 6003, revision 1, section 5.6.3.2, held the Generation Engineering project engineer responsible for drafting, authorizing, and forwarding the modification's installation procedure to the Plant Superintendent for review and approval. Management indicated that Generation Engineering did not review implementing procedures. A licensee representative stated that while the responsibility lies with the project engineer, the actual work had been delegated to the cognizant engineer. There did not appear to be an overview of this work by Generation Engineering (reference 5.b.3). (W)

(10) The Instructor, Generation Welding, stated he was not aware of a job description for his position and knew of no written program that identified his responsibilities and authority. He stated he had adequate authority and management backing but agreed that a written program should be developed. (W) This individual was very knowledgeable of his work. (S)

(11) During interviews with site personnel, licensee representatives stated that communications between corporate engineering and operations personnel was poor. It appeared that operations personnel were not notified in advance of impending modification work. They stated that all too frequently the Group Shift Supervisor was notified of modification work starting when the workers came through the main gate. (W) In discussions with management they stated they were aware of this weakness and had appropriated the necessary funds to increase the number of engineers onsite in order to improve communications and coordination of corporate engineering work. (I)

(12) The licensee was requested to provide a list of goals and objectives for the Plant Support Engineering section and responded on October 25, 1979. The goals and objectives appeared to address the resolution of the weaknesses identified in the area of communications and interface; however, the time for implementing these plans appeared excessive. The schedule was as follows.

- The licensee planned to develop policies for site/general office interface and control of modifications by April 30, 1980 and had targeted full implementation by January 1, 1981.
- A training program for plant support engineers was planned for development by September 30, 1980 and targeted for completed training by June 30, 1983. (W)

The licensee planned to obtain temporary engineers from a contractor until new personnel were hired. They did not describe how the work would be handled until the staff policies were developed and fully implemented. (I)

(13) The licensee had a program to control drawings in need of updating as a result of a modification. The licensee did not isolate these drawings from the master file system and did not make marked up drawings readily available or easily retrievable. (W) The licensee used a master index to appraise potential users that a revision to a drawing was in progress. Traceability of the change in the drawing

was made by attaching a copy of the document change request form into each drawing index; however, for site personnel to obtain a copy of the marked up drawing they had to contact the Generation Department Document Center at the corporate office. (W)

(14) The licensee had recently recognized the need to update As-Built drawings in a more timely fashion and had taken action to hire more personnel at the corporate office. In discussions with corporate personnel, they stated that drawing changes were being completed much sooner than in past, but there was still a large backlog. (W)

(15) The licensee had a Quality Assurance Systems List (QASL) to identify those systems, subsystems, and materials which were subject to quality requirements. Once a system was added to the QASL, all materials, parts, and components of that system had specific quality requirements imposed unless that system's boundary and classification was refined in the licensee's System Boundary and Classification Book (SBCB). The SBCB readily identified only those items within a system that were considered in need of quality requirements. If the SBCB did not include an item, then that item was considered non-Q. (I)

(16) There were 30-systems identified in the SBCB. Of these 30-systems, only 10-systems had been refined and could be recognized as having been carefully analyzed for quality requirements. After questioning why the other 20-systems had not been refined, a licensee representative stated that they had not maintained the SBCB as desired. (W) As an alternative to maintaining the SBCB, most items had been ordered with quality requirements or if they were ordered non-Q an engineering basis was given. The licensee stated that the Quality Assurance Plan was in the process of being updated to fully identify the method being used. (I)

(17) While reviewing the licensee's Operational Quality Assurance Plan, (OQAP), contradictions between the departmental procedures and the plan were noted.

- OQAP, page 66, revision 2, item U stated the Manager, Generation Construction was responsible for the preparation and approval of installation procedures. Generating Engineering procedure 6003, revision 1, section 5.6.3 imposed this responsibility on the project engineer.

- OQAP, page 66, revision 2, item AB stated any deviation from approved specifications was not authorized.

Station Administrative Procedure 105, revision 5, section 5.2.6 stated the Station Superintendent and/or PORC Chairman would indicate which sections of a specification may not be revised without further safety review. (W)

(18) The licensee had no requirements imposed on them regarding changes made to the OQAP. A licensee representative stated that a copy of the change was sent to the NRC for purpose of notification but not necessarily for approval prior to implementation. (W)

(19) Many of the licensee's procedures required revisions to reflect the recent reorganizations that had taken place. It was noted that the site administrative procedures were being revised at the time of this inspection. (W)

d. Conclusions

The licensee's program for design engineering and modifications appeared to be well developed with some exceptions.

- Corporate office engineering support could be strengthened by increasing communications with GCMD and site personnel.
- Modification project closeout was not timely and as a result slowed the revising of As-Built drawings, reduced information flow, and increased the potential for loss of records.
- Control of drawings in the process of being revised was weak in that marked up copies of the drawings were not readily available at the site for day-to-day use.
- Modification records were retained by Project Engineers, thereby preventing the document control centers from functioning properly.

The licensee had recognized most of these program deficiencies and had started to take corrective action. The timeliness of this corrective action should be followed closely and firm interim measures should be established to reduce the impact on safety. The licensee had established goals in this area but had made no official commitments. The management controls in this area of design engineering and modifications was average.

6. Corrective Action System and Management of Generic Issues

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls over the corrective action system and of generic issues.

a. Documents Reviewed

(1) Generation Department Procedures (GDP)

- 2002, revision 1, Nonconformance and Corrective Action
- 2007, revision 0, Preparation and Submittal of Documents to Regulatory Commissions
- 2020, revision 1, Identification and Notification of Deviations in Accordance with 10 CFR 21
- 2021, revision 0, Evaluations of Deviations in Accordance with 10 CFR 21
- 2024, revision 1, Administrative Control of Tasks Created by Inspections Performed by NRC Office of I&E
- 4005, revision 1, Operational Quality Assurance Control of Nonconformances and Corrective Action

(2) Station Administrative Procedures

- 101, revision 8, Organization and Responsibility
- 104, revision 1, Control of Nonconformances and Corrective Action
- 106.1, revision 0, Reportable Occurrence

(3) Interoffice Memorandum, H. Dieckramp to I. Finfrock, October 4, 1977, NRC Regulations 10 CFR 21

(4) Reportable Occurrence evaluations 79-32, 79-33, 79-34, and 79-35

(5) Group Shift Supervisors Log, October 1979

(6) QA Finding Analysis, Audit Notices, September 16, 1979

(7) QA Audit Reports 79-07, 79-15, 79-23, 78-13, 78-14, 78-12, 78-11, and 78-25

(8) Reactor Operations Surveillance Checklist, Protective Instrumentation

(9) Surveillance Testing Checklist, Form 4012-01, revision 1

(10) NCR/CA 78-551 and 79-003

(11) Operational Quality Assurance Program

(12) Engineering Project Log, September 26, 1979

(13) Task Status Report, November 2, 1979

(14) Incomplete NRC Tasks, November 2, 1979

(15) Audit Notice Status Log, September 18, 1979

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Items

None.

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the bases for subsequent performance evaluations.

(1) Written corporate policy statements or the OQAP had not specified requirements for evaluation and correction of externally identified items such as IE Bulletins, IE Circulars, IE Information Notices, and Service Information Letters. (W)

(2) Written corporate policy statements had been developed for evaluation and correction of internally identified items such as audit findings and reportable events. (S)

(3) Written corporate policy statements had been developed for identification, evaluation, correction, and reporting of 10 CFR 21 items. (S)

(4) An administrative procedure at the corporate office established responsibilities for administrative control of the correspondence, and the corrective actions and the commitments made in regard to items identified in IE inspection reports. This procedure had been

expanded to include tracking of the status of tasks generated in correspondence from and to the NRC regarding IE inspection reports, IE bulletins, reportable occurrences, changes in the TS, and other documents pertaining to plant operations. (S)

(5) Station Administrative Procedure 101, assigned the responsibility for investigating applicability, preparing responses, and recommending corrective action for items identified by PORC, GORB, NRC, NSSS Vendors, and Insurance Agencies. (S) The procedure did not provide guidance on what constituted an adequate evaluation or documentation of these events. (W)

(6) Station Administrative Procedure 106.1, Reportable Occurrence, prescribed the requirements for the identification and reporting of Licensee Events (LE). The procedures also provided for overview of the event by requiring PORC review. (S) Although the licensee did perform written evaluations of events, requirements had not been established to provide guidance for what the evaluation should contain. For example, the procedure did not establish requirements for the following.

- To compare transient information with original startup testing transients
- Extent of review for generic implications
- Records to support event and future evaluations (W)

(7) Station Administrative Procedure 106.1, Reportable Occurrence, established the requirements for the identification, preparation, review, approval, and corrective action of licensee events. The determination that an event was reportable was made by the Group Shift Supervisor and by either the Station Manager, Unit Superintendent, or the Operations Supervisor. Once the determination was made that the event was reportable, the Operations Supervisor assigned responsibility for writing the licensee event report (LER). Documentation of events that were abnormal but not determined to be reportable by the Group Shift Supervisor were documented in the operating logs. Operating logs were normally reviewed by the Operations Supervisor. (I)

The station administrative procedures did not include a written system to assure that all abnormal conditions were highlighted and elevated to management to provide overview of reportability determinations and to prevent oversight of correction of minor problems. (W)

(8) Administrative procedures did not provide for evaluation of applicability and corrective action for events that occur at other plants (W). The inspector observed that corporate and

plant supervisory personnel were receiving a copy of "Atomic Energy Clearing House", and that distribution of applicable events were being sent to the responsible supervisors for review and inclusion into the control room reading file. (S)

The licensee had established a goal and objective for the Station Engineering Group to maintain an awareness of operating problems and changes in standards in the nuclear industry; and to incorporate the experience of others, including LER's, in station procedures, systems, and training programs. (S)

During the exit interview, a licensee representative stated that the authorization for additional manpower included personnel for evaluation of events that occurred at other plants. (S)

(9) Administrative procedures did not provide trending programs to enable prediction of failures due to performance degradation identified through the surveillance testing program. In addition, a program was not provided to predict failures based on past failures that did not result in a reportable event. (W)

In practice, the licensee relied on the supervisor's cognizance of past events to institute studies of failure patterns. In addition, the licensee had conducted trend analyses as follows.

- Causes of licensee events reportable to the NRC
- Causes of noncompliance items identified in NRC inspection reports
- The QA Department had started compiling and categorizing various items identified by QA Audit Notices, QA Surveillance Notices, NRC Inspection Items, Nonconformances, Reportable Occurrences and QA Inspection Reports. A licensee representative stated that JCP&L planned on computerizing this information for retrieval and analysis. In the interim, the QA Department was performing an analysis of the findings identified by the various sources described above.
- Station personnel stated during the exit interview that future plans prescribed a program for continual analysis of equipment performance to enable prediction of failures. (S)

(10) The station adminstrative procedures did not specify the responsibility for tracking the status of corrective action for items such as those generated by company review boards, NRC, NSSS Vendors, or Insurance Companies. (W) In practice, the Engineering Supervisor had established an informal tracking system for following action and documenting resolution of action items identified by IE Bulletins, IE Circulars, Information Notices, Service Information Letters and PORC. (S)

(11) Corporate Procedure 2024, Administrative Control of Tasks created by Inspections Performed by the NRC office of I&E, established for the Task Status Report. This report was used to track the status of items requiring response to the NRC. (S) Interviews with personnel indicated that the Task Status Report had items on it which had been completed, but had not been removed from the report. The reason given for this was that the person responsible for correcting the item was solely responsible for removing it from the report, and this was not always accomplished. (W)

(12) Results of interviews and review of the informal tracking system indicated that prior to 1979 the documentation of the resolution of Service Information Letters (SIL) was not provided. Licensee representatives stated that plans had been developed for reviewing all previously issued SIL's to ensure adequate resolution and documentation. No date was given for the completion of this effort. (W)

(13) Corporate procedure, 2002, Noncomformance and Corrective Action, established a system for the control and implementation of non-comformance and corrective action. A noncompliance item concerning the corrective actin target completion dates and the timeliness of corrective action is discussed in [reference 11.b.(1)(a)]. (W)

(14) Corporate procedure, 400B, Requirements for the Operational Quality Assurance Audit Program established a system for tracking the status of corrective action identified through audit fingings. An item involving overdue corrective action of audit notices is discussed in [reference 11.b.(1)(a)]. (W)

d. Conclusions

(1) Internally Identified Items

The licensee had developed a program for management control of corrective actions and tracking of items identified within the company such as reportable occurrences, 10 CFR 21 deviations, QA audit and surveillance findings, and Nonconformance/Corrective Action Reports. Although these programs appeared adequate to meet regulatory requirements, guidance was not provided in the administrative controls to ensure that an operating event was thoroughly evaluated and documented. In addition, the program did not provide a documented mechanism to insure that all identified abnormalities would be highlighted and forwarded to site management for review.

A significant aspect of the corrective action system involving QA findings was the noncompliance item discussed in paragraph 11.b.(1)(a) of this report. This item discussed outstanding QA findings that had responses which were overdue. This item was significant and indicated the lack of management support for items identified using this system.

The overall evaluation of the licensee's management controls in this area is average.

(2) Externally Identified Items

It appeared that externally identified items were being evaluated although corporate policies and administrative procedures had not been developed to assure adequate evaluations. In practice, items requiring a response to the NRC received licensee management overview.

Items not requiring an NRC responses, such as General Electric Service Information Letters (SIL) or Events that occurred at other plants may have been reviewed, however, until recently documentation programs had not been established to verify this. The licensee had recognized the need for documenting these events and was in the process of taking steps to correct this oversight.

The licensee had established mechanisms to obtain a summary of NRC reportable events that occur at other sites and distribution was made to corporate and site supervisory personnel. Administrative procedures did not provide for responsibilities and methodologies for evaluations of these items, however, it was evident they were being reviewed. Licensee management stated that the increased manpower allocation would provide an engineer to perform the evaluations. The Task Status Report had items on it that had been completed, however, the items were still on the report, therefore, this report was not providing management with an accurate status of outstanding commitments.

The overall evaluation of the licensee's management controls in this area was marginally average.

7. Training

The objective of this portion of the inspection was to determine the adequacy of management controls associated with licensed and non-licensed training activities.

a. Documents Reviewed

(1) TS 6.0, Administrative Controls

(2) JCP&L Generation Division, Operational Quality Assurance Plan, revision 2

(3) Operational Procedures

- 4001, QA Organization, Responsibilities and Qualifications, revision 1
- 4015, Operational QA Personnel Qualifications and Certification, revision 3

(4) Nuclear Generating Station Procedures

- 5001, Management Organization, Responsibilities, Authorities, and Qualifications, revision 1
- 5002, Training of Nuclear Generating Station Department Staff Personnel, revision 0

(5) Generation Engineering Procedures

- 6001, Organization and Responsibilities, revision 0
- 6002, Training of Generation Engineering Personnel, revision 0

(6) Generation Construction and Maintenance Procedures

- 7001, Organization Responsibilities, Authorities, and Qualifications, revision 0
- 7002, Training of Generation Maintenance Personnel, revision 0

(7) Site Administrative Procedures

- 101, Organization and Responsibility, revision 8
- 102, Training of Nuclear Generating Station Personnel, revision 2

(8) Station Training Administration Manual, revision 7

(9) Hot License Operator Training Program

(10) Memorandum, 10/29/79, Goals and Objectives, Plant Support Personnel

(11) Memorandum, 11/5/79, J. L. Sullivan, Jr., to J. T. Carroll, Jr., Goals and Objectives, Operations/Maintenance/Management Control

(12) Time Oriented Proficiency Progression System (TOPPS), Draft, 10/17/79

(13) Letter, P. F. Collins to I. R. Finfrock, December 22, 1976.

(14) Lecture Schedules for 1979.

(15) Lecture Makeup Form SF-385, revision 0.

(16) Lecture Assignment Form SF-390, revision 1.

(17) Training package for TMI related training on April 18, 20, and 23, 1979.

(18) Lesson Plans for Hot License Operator Training and Operator Retraining.

(19) Training Records for 1978 for one (1) senior reactor operator and two (2) reactor operators.

(20) Goals and Objectives for the Station Training department.

(21) Draft Lecture Outline, General Employee Training in Radiation Protection.

(22) Training Records for the following Site Personnel

- Thirteen (13) Visitors
- Ten (10) HP Technicians
- Eight (8) Radiochemistry Technicians
- Nine (9) Permanent Site Employees

(23) FDSAR, Section 12, Conduct of Operations

b. Findings

(1) Items of Noncompliance

(a) 10 CFR 50, Appendix B, Criteria V, Instructions, Procedures, and Drawings and OQA Plan, Section X requires that activities affecting quality shall be prescribed by documented procedures and accomplished in accordance with those procedures.

Licensee's QA procedures, 5002, 6002, and 7002 described the training requirements for corporate staff personnel and included requirements for formal schools or training programs, procedure training, and QA familiarization.

Licensee's Administration Training Manual, Section IV, described specialized employee training including lectures and on-the-job training which included maintenance performance, procedure review and change review.

Contrary to the above:

- Formal training was not conducted for Generating Stations Nuclear personnel, Generation Engineering personnel, and GCMD personnel.
- Hourly personnel in the mechanical maintenance Department had not participated in formal lectures, and on-the-job training relating to procedure review and change review.

The failure to implement the training program for these personnel was identified as an apparent item of noncompliance (219/79-18-16).

(b) 10 CFR 50, Appendix B, Criterion II, and OQA Plan, Section III, require the licensee to develop a training program as described in ANSI N18.1, 1971, Selection and Training of Nuclear Power Plant Personnel.

ANSI N18.1, 1971 requires that a training program be established for the operating organization. The operating organization were those personnel concerned with the day-to-day operation, maintenance and certain technical services.

Contrary to the above, a training program for the Health Physics Department did not exist as required by sections 5.1 and 5.5 of ANSI N18.1, 1971. The failure to establish a training program in this area was an apparent item of noncompliance (219/79-18-17).

(2) Deviations

None.

(3) Unresolved Items

Appendix A of 10 CFR 55, paragraph 4.b states that the requalification program shall include "written examinations which determine licensed operator's and senior operator's knowledge of abnormal and emergency procedures."

The licensee issued a Training Manual, which was approved by the NRC on December 22, 1976, which delineated how the requirements of Appendix A, 10 CFR 55 would be satisfied. The Training Manual, revision 7, page 303-9 stated that "During the course of the lecture series, periodic quizzes will be conducted to demonstrate training effectiveness."

During the 1979 lecture series, the licensee conducted approximately 85 hours of lectures in four (4) - one (1) week lecture cycles. During this period, the licensee administered one (1) written quiz (in addition to the annual written examination), covering material presented during one half of the lecture series (cycles 3 and 4). This "quiz" consisted of eight questions selected from some of the subjects covered during the cycle 3 and 4 lecture series but not all. No written tests were administered during cycle 1 and 2 of the lecture series. Discussions with licensee personnel indicated that they intended to conduct one (1) written quiz at the end of each lecture week. A written communication from the Training Supervisor to his management stated that he intended to conduct more than one quiz during the lecture series; however, he felt one quiz met the intent of the requalification plan. This item will remain unresolved and will referred to NRC management for resolution (219/79-18-18).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) Corporate policy for the training of licensed personnel had been established in the OQA Plan, Section III. Responsibility for directing training was delegated from the Station Manager to the Director, Station Administration. The Training Supervisor reported to the Director, Station Administration and was responsible for managing the training department, developing training programs, and developing and administering annual simulated NRC Licensee Examinations. (I)

(2) The licensee had developed a Station Administrative Procedure 102, Training of Nuclear Generating Station Personnel, to establish the requirements and methods to be followed for the training and qualification of Oyster Creek Nuclear Generating Station personnel. The procedure included the qualification requirements for initial assignment to key positions at the station. (S)

(3) The licensee had developed a requalification training program to meet the requirements of 10 CFR 55. This program was approved by the NRC and included in the Oyster Creek Training Manual. (I)

(4) The Retraining Program for licensed operators did not provide the following:

- Provisions for the identification of and the responsibility for affecting program changes due to changes in regulatory requirements, regulatory guides, facility, procedures, and due to employee suggestions.
- Requirements for lesson plans
- Management approval of curriculum
- Implementing procedures
- Management Audit or Overview
- Training of instructors in instruction techniques
- An incentive program to assure that employees would be motivated to participate in training activities, and that supervisors would be encouraged to send their people to training sessions. (W)

(5) Discussions with Station personnel indicated that the Hot Licensed Operator Training Program was not approved by Station Management. During the exit interview the Station Manager stated that he thought the Program was approved, however, no supporting documentation was provided to the inspector. (W)

(6) Personnel interviewed indicated the following:

- The site training group was understaffed.
- Training given to licensed operators was the minimum required.
- The Retraining Program concentrated too much on theory and not enought on operational problems.
- Training on Design Changes was not performed in a timely manner. (I)

(7) The inspector reviewed the 1979 lecture schedule for licensed operators and observed that eighty-five (85) hours of lectures had been presented as opposed to a requirement of sixty (60) hours. (I)

(8) Goals and Objectives had been established for the Training Department as follows.

- To increase the size of training staff.
- To develop an upgrade program for reactor operators.

- To conduct special training as follows:
  - -Casuality training for licensed supervisors.
  - -Small break (LOCA) procedure training.
  - -ECCS procedure revision training.
  - -New transient analysis training.
  - -Fire protection modification training. (S)

(9) The training department had implemented an informal training program of meeting with the operating shifts to discuss operational transients and to solicite information concerning possible weaknesses in equipment or procedures. The Training Supervisor indicated that when a suggestion was offered to him during the training session he would evaluate it and forward an interoffice memorandum to the employee's supervisor for resolution of the item. (S)

(10) The Training Supervisor prepared a Lecture Assignment form, SF-390, and notified the member of the staff, who was considered the expert in the area, to conduct training and identified what was to be covered. Lesson plans had been prepared in advance and were on file in the training department for most lectures. (S)

(11) Special items that required licensed operator cognizance such as IEB's, IEC's, SIL's, etc. were identified by management and routed to a required reading file to be read and documented by licensed operators. (S)

(12) Interviews with licensee personnel indicated that the design change program did not provide for distribution of the design change packages to the training department such that personnel administering training could obtain timely information on what the design change was and how it worked. (W)

(13) The inspector examined 1978 training records for two (2) licensed operators and one (1) senior licensed operator and observed the following:

- The on-the-job training for one (1) licensed operator was not verified by the shift foreman
- Records to demonstrate procedure change or design change review by the operator were not stored in the records center unless the change was covered by a special training session. (W)

(14) The equipment operators were attending lectures designed for the licensed operators. Discussions with licensee representatives indicated that plans had been made to develop and implement a training program for the equipment

operators. A goal of November 1980 had been established dependent on obtaining additional personnel to administer the programs. (I)

(15) Personnel interviewed who administered the licensed operator training program appeared to be aware of their responsibilities and appeared to be qualified to perform their responsibilities. (S)

(16) In June 1979, a three week training course covering basic health physics fundamentals was presented by an off-site contractor to the HP staff. This course was the first classroom training that many of the HP technicians had received, even though they may have been in the department for several years.

An examination was given at the completion of the course. A review of test scores indicated that eight out of the 18 employees that completed the course received scores below 70 percent. (W)

(17) ANSI-N18.1, - 1971, Section 4.5.2, requires that technicians in responsible positions shall have a minimum of two years experience in their speciality. The licensee's personnel policy allowed employees to advance from a "B" to the "A" technician level with less than two years HP experience. As an "A" technician the employee was in the most responsible technician position. These responsibilities included shift assignment and approval of Radiation Work Permits (RWP's). (W)

(18) A training program had not been established for the use of mock-ups in order to comply with As Low As Reasonably Achievable (ALARA) practices regarding such maintenance and repair work as control rod drives, recirculation pump seals, main steam line valves, etc. (W)

(19) The majority of the HP staff members interviewed stated that they need additional training in the technical aspects of health physics and a review of plant systems. (W)

(20) Section IV of the Training Manual required that a training program for the Chemistry staff would be conducted on a continuing basis throughout the year. At least 20 hours of lectures were to be given each year. The training records indicated that the lecture requirements for 1977 and 1978 were satisfied by periodic sessions spaced throughout the year. (I) As of November 2, no training lectures had been conducted in 1979. (W)

(21) The General Employee Training did not include actual practice in donning anti-contamination clothing or a plant tour to familiarize individuals with such items as evacuation routes, use of radiation monitors, or location of the HP Office. (W)

(22) The Training Program did not specify what training plant personnel receive in the operating characteristics and proper use of radiation survey meters. RWP conditions may require that workers have a survey meter with them when they enter certain Radiation Control Areas, but no requirements had been established as to prior training received in the use of such meters. (W)

(23) On-the-job training (OJT) was the only type of training taking place in the mechanical maintenance department. The licensee had a special file for each individual in the department. Each file contained copies of job orders previously worked on by that individual. This method did not descriminate between a person who might have been observing the work and the person who did the work. If the individuals name was on the job order, a copy of the job order was placed in that persons file. (W)

(24) The Mechanical Maintenance Supervisor stated that the job order file as described in (23) above was maintained to assist the Group Maintenance Foreman in tracking OJT. In discussions with a Group Shift Foreman, he stated that he did not track OJT and was not aware of anyone who did. (W)

(25) The Quality Assurance Plan did not address the training requirements of Criteria II, 10 CFR 50, Appendix B. The program did address a commitment to Regulatory Guide 1.8, revision 1, September, 1975, Personnel Selection and Training. (I)

(26) Some formal training for site electrical and instrument personnel had been scheduled in the past. This training had little priority and was subject to cancellation if outage work was planned at the time of training. (W)

(27) On-the-job Training (OJT) for Equipment Operators (EOs) consisted of a self-study program on various systems. When the self-study program was completed the EO was given a walk through examination by his supervisor. After successfully passing a walk through the individual became qualified. There was no retraining in this area. (W)

(28) Licensee management had been aware of the non-licensed training inadequacies and had developed long term goals for station employees (reference 7.a.(8)). The licensee had planned to implement the program; however, it appeared that the actual implementation would be several years away. (W)

(29) The licensee's interim measures for training of non-licensed personnel were not formalized in that a draft schedule of training existed but did not identify what type of training would take place. The draft schedule had not been submitted to management for approval. (W)

(30) In discussions with the Plant Manager, he stated that final plans for training of non-licensed personnel had been defered until the lessons learned committee from TMI had made their recommendations. (I)

(31) All site protection officers received Fire School Training from the Monmoth County Fire Academy and Fire Brigade Training from JCP&L. (S)

(32) There was no formalized training outlined for the position of NDE Examining Engineer. QA personnel were provided a training check sheet that required initialed check off for on the job training. (W)

(33) A formal training program for the ISI coordinator position was not established. Training was made available on request and on an as needed basis. (I)

(34) There was no formalized training program for managers or purchase request authorized listed persons to receive training in the procurement area. A training lecture was provided earlier this year and plans were to develop training requirements in cooperation with Materials Management, QA, and Plant persons. (I)

(35) Stores personnel were given training which was in accordance with a check list. This training was performed during the first 90 days of hire. The supervisor stated acceptance by signing the check sheet indicating the person was qualified. The licensee was establishing a training program to be implemented and which would include re-training of stores personnel. (W)

d. Conclusions

(1) Licensed Operator Training

The licensee's program for licensed operator training appeared to meet the Regulatory requirements. There were indications that the program lacked management involvement. Management did not audit training activities but left this up to the QA organization.

Periodic quizzes were used to measure the effectiveness of the program, however, it appeared that the number of periodic quizzes administered were not adequate to evaluate the training, although the Regulations may have been met.

Employees were concerned with the quality and quantity of training. It appeared that the licensee was taking steps to upgrade the licensed operator training program.

Administrative controls did not insure that the training department would receive all the information required to ensure that changes were incorporated into the training program. In practice, it appeared that the information did get to the training department for review. It did appear, however, that improvement was needed in providing changes to the facility and to the Regulations.

This area was considered to be average.

(2) Non-Licensed Training

With the exception of OJT, a training program for most non licensed personnel was not implemented. The licensee appeared to have recognized this weakness and had started to take corrective action. There was no formal commitment or record to assure completion of the corrective action.

The licensee's interim measures to assure some form of training did not address the requirements imposed in the Station Training Manual.

A training program had not been established for the Health Physics Department. Training was needed for the HP technicians in the technical aspects of Health Physics and Plant Systems. A program had not been established involving the use of mock-up training in order to satisfy ALARA guidance.

There was a need for the development of a specific training program to provide an increased awareness of the rolls that require interface from the various personnel in different departments. Instructions at all levels of personnel was needed and was recognized by management.

The licensee's management controls in the area of non-licensed training were poor.

8. Inservice Inspection and Testing of Pumps and Valves

The objective of this portion of the inspection was to determine the extent of management's controls over the Inservice Inspection (ISI) program and the Inservice Testing of Pumps and Valves.

a. Documents Reviewed

(1) Oyster Creek Technical Specification 4.3, Reactor Coolant

(2) Inspection Specification No. 60-74-3 Inservice Inspection for 1977-79 Outages, Revision 1, 8/23/78

(3) 1978 Annual Inservice Inspection Report

(4) August 1, 1977, EAGS-116, Basis for Inspection Schedule for Oyster Creek Nuclear Generating Station Reactor Vessel Nozzles

(5) Inservice Inspection Report for 1979 Refueling Outage

(6) Technical Specification Change Request No. 28 Docket No. 50-219, August 1974, revision 1, April 1975; revision 2, September 1975; revision 3, April 1976; revision 4, June 1978

(7) Oyster Creek NGS Inservice Inspection Program Update to the ASME Boiler and Pressure Vessel Code, Section XI 1974 Edition through the Summer 1975 Addenda, GP-R-465, March 1, 1979

(8) Procedures

- 2008, revision 0, 3/10/75, Inservice Inspection
- 3001, revision 2, 1/12/76, Site QA Surveillance
- 4026, revision 1, 8/23/79 Nondestructive Examination Program General Requirement
- 5001, revision 1, 6/22/77, Management Organization, Responsibilities, Authorities and Qualifications
- SQAI-005, revision 3, 8/22/77, Instructions for Processing an NDE and ISI Request
- SQAI-016, revision 0, 10/13/78, Visual Examination of Reactor Equipment and Components By Use of Underwater TV Camera

(9) Audit 78-15, ISI/NDE, Refueling Outage ISI/NDE Activities

(10) Audit 77-18, Adequacy and Implementation of the Inservice Inspection Program--.

(11) Procurement Quality Assurance (PQA) 77-247, PO No. 16593, 6/21/78 Testing of Relief Valves; Surveillance Report 77-247-1, 7/21/78

(12) PQA 76-147, 1/21/77 and QA-76-030, 2/23/76

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Items

Audits 77-18 (QA-77-220), and 78-15 (QA-78-268), were reviewed. These audits were directed toward the Oyster Creek Inservice Inspection effort. The findings and primary concern reflected in these audits addressed the lack of an assured status for the on-going ISI program. Also, a check was required to assure that the interior of vessel, components, and space below the bottom core plate inspection effort status was verified.

There was a need to review ISI documentation records for completeness, corrective action, exclusions, and in general for substantiation of the status for the first 10 year inservice inspections.

The licensee had stated they would do the following.

- Assure availability and completeness of past documents which were the basis for ISI commitment credit.
- Follow up on previously mentioned audit finding responses to assure completeness for acceptable closure.
- Validate the remaining work to be completed for the first 10 year ISI effort based on reports and Quality Assurance records.
- Change as required, to meet commitments, the final 10 year ISI Specification.

The licensee had agreed to resolve this item by completing the above actions by February 1980. This is an unresolved item (219/79-18-19).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) Procedure 2008, Inservice Inspection, Revision 0, did not specify a frequency for the Audit of Quality Assurance by Generation Engineering of inspection activities to ensure such activities complied with Inservice Inspection Plan requirements and specifications. Training qualifications for the auditors was not addressed. Procedure 2008 was currently being revised. (W)

(2) The responsibilities for the past efforts in the conduct of the ISI function did not correlate in practice to procedure 2008. The ISI program was divided among three departments which caused a fragmented control over the program. Strong centralized leadership for the first 10 year cycle was lacking. The licensee had recognized the situation and had initiated organizational changes and was currently reviewing and changing procedures that will affect the ISI program. (W)

(3) Generation Engineering Department did not have a list of training requirements for ISI, followed by an evaluation. The development of an overall training program for Generation Engineering was currently being developed. Project engineers were selected for assignments on the basis of their past education, experience and standing. (W)

(4) The ISI program was created as a specification by Generation Engineering. The actual implementation was accomplished by Plant with a detailed schedule and interfaced with Site Quality Assurance (contractor). The new ISI program, Phase B, had been written and sent to NRC for review. (I)

(5) The Quality Assurance Department had the NDE function required for the ISI performance - excluding in-corevisual inspections. The Plant had relied on QA for performance of the ISI work. There were recommendations for a full time plant person to be the responsible person for the new, Phase B, ISI program. (I)

(6) The plant viewed the first 10 year ISI program as a Technical Specification requirement to be completed. The responsibility for ISI was with the Generation Engineering and the Operational Quality Assurance Departments. Specifications were developed by Generation Engineering and NDE efforts by Quality Assurance. The Plant was responsible for the vessel visual inspections. The Plant had overall responsibility for the first 10 year cycle, (Phase A) ISI program. (I)

(7) The inservice test program, referred to as the pump and valve program had been assigned to the Plant ISI Coordinator for system and procedure development. System equipment and procedures were being secured to implement this new program. (I)

(8) There was a special nozzle mock up for practice and instruction on ISI performance. (S) There was no written policy for such mock up training. (W)

(9) Reliance had been placed on the contractor program for calibration standard blocks. Quality assurance performed a record inspection. The licensee did not have certified NDE persons but used independent consultants. The resulting test data was reviewed by the contractor and by the Authorized Inspector, AI.

The NDE procedures had been reviewed by Level III contractor personnel. Current efforts and goals by the licensee were to have internal qualified level III people to perform such reviews. (I)

(10) Plant operations was responsible for hydrostatic testing following corrective repair completions and QA was responsible for surveillance. (S)

(11) Monitoring of the ISI tests was performed by Site Quality Assurance inspectors. (S)

(12) Most of the ISI program exceptions resulted from field identified problems. The information was sent to Generation Engineering for resolution. (I)

(13) The ISI Coordinator did not have knowledge of his job description. He did have a list of tasks that he was responsible to perform. The ISI coordinator, as of October 10, 1979, had the responsibility of assuring that the requirements for the first 10 year ISI cycle had been met. The responsibilities of this position included development of pump and valve procedures including establishment of acceptance criteria; training of operators who will perform vibration surveillance on pumps; reviewing of surveillance test results for instrumentation, electrical and operations, by addressing acceptance criteria; and for writing of reportable occurrences in these areas. A formal training program for the ISI coordinator position was not established. Training was made available on request and on an as needed basis. (W)

(14) Generation Engineering had recommended a person or persons to devote full time to the new ISI program. The new program had a considerably larger scope than the first 10 year ISI program. (S)

(15) Upper management viewed the current ISI program as a shared responsibility between Plant, OQA and Generation Engineering. The ultimate responsibility was seen to reside with the Manager Generation Engineering. Management was satisfied on how ISI was controlled. (W) In the future a single individual at the Oyster Creek site will have the concentrated ISI expertise. (I)

(16) There was no outside contractor to perform the ISI program. OQA contracts for NDE assistance. (I)

(17) The ISI program for the first 5 years was based on the Technical Specification. Subsequent criteria had been included in Technical Specification change request No. 28 as revised. The change request and revisions had not been approved by NRR. (W)

(18) The final ISI for the first 10 year cycle was planned to be performed early in 1980 and contained the most difficult series of examinations. (W)

(19) A position, NDE Examining Engineer, had been established in the Operational QA Department. This position included a responsibility for liasson with the contractor providing the NDE services for the ISI work. Frequent trips were made from the corporate location to the Oyster Creek site (once per week) by the recently hired NDE Examining Engineer. (S)

(20) There was no formalized training outlined for the position of NDE Examining Engineer. (W) QA personnel were provided a training check sheet that required initialed check off for on the job training. (I)

(21) The information flow with regard to ISI was on an informal basis. (W)

(22) Management supervisors received no formalized training in the area of ISI. (W)

(23) The Station Superintendent-Nuclear, was responsible for assuring that the Authorized Inspector (AI), was notified of ISI, maintenance, repair replacement, modifications and additional work, as required. (I)

(24) Inspection Specification No. 60-74-3 detailed the requirements for the examination of various reactor vessel components, welds, and piping system components to be inspected during the next outage. This specification addressed examinations to verify the integrity of systems and components as described in Revision 4 to the TS change No. 28. The specification addressed the use of any alternate examination method, combination of methods or newly developed techniques. (I)

It also addressed the responsibilities for the conduct of the ISI. The Site QA Supervisor was designated as the person responsible for maintaining records of personnel qualifications. Qualifications were specified to be in accordance with an NDE Qualification Program in compliance with SNT-TC-1A and visual inspections to IS-223, Section XI of the ASME Code. (I)

(25) There was no formal method for identifying plant modifications which may have an effect on the ISI plan. (W)

d. Conclusions

The first 10 year ISI cycle lacked strong centralized management control. The ISI effort was shared by three Departments which caused fragmented control over the program. There had been a lack of specific training within these departments to strengthen the expertise needed to assure satisfactory completion of the inspections. Audits had been performed in the past that alerted management of problems that existed in the program. In particular recognition of assurance for completion of requirements for the first 10 year cycle by record was found to be lacking. The lack of centralized control was apparently contributory toward the lack of follow up in this area.

Management was taking action by creating an ISI responsible individual at the Plant. Management needs to recognize the magnitude of the new ISI program to assure that the appointed person has the required time and resources for the programs accomplishment.

Region I follow up inspection of unresolved item (219/79-18-19) is important to assure that the final ISI effort for the first 10 year cycle is inclusive of requirements. The licensee's management control of the last 10-year program for ISI was poor.

9. Committee Activities

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls associated with activities conducted by the Plant Operations Review Committee (PORC), by the Independent Safety Review Groups (ISRG), and by the General Office Review Board (GORB).

a. Documents Reviewed

(1) Administrative Procedures

- 101, Organization and Responsibility, revision 7
- 101.1, PORC Action Items, revision 1
- 106.1, Reportable Occurrence, revision 0
- 107, Procedure Control, revision 11
- 115, Standing Order Control, revision 6

(2) GORB Administrative Procedures

(3) Guidelines for ISRG Chairman/ISRG Reviews

(4) Active PORC Action Items Update, September 27, 1979

(5) Generation Department Procedure 2019, Requests for Safety Review and Independent Safety Review Program, revision 1

(6) GORB Meeting Minutes, 69 through 74

(7) ISRG Reviews, 79-01 through 79-91

(8) ISRG Review Printout for 1977, 1978 and 1979

(9) PORC Meeting Minutes, 79-01 through 79-110

(10) Group Shift Supervisors Log, September 11, 1979 through October 13, 1979

(11) Control Room Operators Log, April 28, 1979 through August 31, 1979

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Items

Technical Specification 6.5, Table 6.5-1, item i, requires that Audit Reports and NRC I&E Inspection Reports be reviewed by the Independent Safety Review Group (ISRG) to determine if any matters reported involve violations of the Technical Specifications, license requirements or regulations, or have any nuclear or radiation safety implications.

An evaluation of the ISRG reviews indicated that Audit Reports and NRC Inspection Reports were not being reviewed in a timely manner. Fifteen 1977 Audit Reports were reviewed during 1979. Only three of thirty-six 1978 Audit Reports and none of the 1979 NRC Inspection Reports had been reviewed at the time of the inspection. The untimeliness of these reviews had previously been identified by the licensee. Four of the recent Audit Reports had been given a pre-review for safety implications. The licensee committed to complete the review of the backlog of reports in these areas by February 1, 1980. This item was identified as unresolved (219/79-18-20).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) The Plant Operations Review Committee (PORC), the Independent Safety Review Groups (ISRG), and the General Office Review Board (GORB) provided nuclear safety reviews and audits. (I)

(2) The PORC and GORB structure and activities were described in Administrative Procedures. No Administrative Procedures were provided for the ISRG (W). However, in general instructions for ISRG members had been provided. (I)

(3) The required safety reviews to be performed by the PORC, ISRG, and GORB were described in a generation department procedure. (I)

(4) The GORB had two standing subcommittees: Operations and ISRG. (S) Responsibilities of the ISRG subcommittee were not clearly defined in the GORB Administrative Procedure. GORB minutes reviewed by the inspector did not reflect any recent ISRG Subcommittee activity. (W)

(5) The licensee had taken exception to ANSI N18.7-1972. Technical Specification 6.5 provides their position on this subject.

- ANSI N18.7, Section 4.2.2.1, requires that independent review groups shall be composed of no less than five persons. Technical Specification 6.5.3.1 specifies that the ISRG Coordinator establish review groups of two or more individuals. Most ISRG review groups consisted of two members. (I)

- ANSI N18.7, Section 4.2.5, requires that minutes of all scheduled meetings shall be prepared and retained. Technical Specification 6.5.3 does not require the ISRG to prepare and retain meeting minutes. The ISRG had not kept minutes of their review activities. (W)

(6) ISRG members had not been required to familiarize themselves with ISRG reviews performed by review groups of which they were not participants. (W)

(7) An ISRG Secretary maintained a computer file on ISRG reviews. (I)

(8) Proposed changes to equipment or systems, and proposed tests and experiments, subject to the provisions of 10 CFR 50.59, required review by the PORC, if requested by the Station Manager. The Oyster Creek Technical Specifications allowed the Station Manager to make determinations as to whether or not an unreviewed safety question was involved. The inspector was informed that the PORC always reviewed these items and advised the Station Manager concerning determination of unreviewed safety questions. (I)

(9) A deficiency reporting system had not been established to provide documentation that all abnormal events, equipment failures, etc., had been adequately evaluated concerning the need for PORC review. (W)

(10) The PORC conducted over 120 meetings in 1978 and had conducted over 110 meetings during the current year. The inspector was informed that approximately 20 percent of each regular PORC members time had been spent on PORC activities. A large portion of PORC meetings had been devoted to procedure reviews. (I)

(11) The PORC minutes documented the reviews of temporary changes to procedures as established by Technical Specification 6.8.3 which requires, in part, that temporary changes to procedures be reviewed by PORC as specified in the Administrative Procedures. The Administrative Procedure 107 specified that this review be done at least quarterly. (W) The Standard Technical Specifications requires this review within 14 days of implementation.

(12) The PORC did not routinely perform trend analyses. (W) A PORC member stated that trends could be identified during the PORC review, since members were familiar with previously identified problems. (I)

(13) The PORC reviewed Monthly Maintenance Summary Reports and Monthly Operations Summary Reports as part of their continuing review of facility operations. (I)

(14) As a result of discussions with PORC members, the inspector determined that the PORC did not review nonconformances, audit findings, logbooks or records of operation as a method of reviewing facility operations. It was stated that these items had been reviewed by responsible staff members as part of their normal responsibilities. (W)

(15) The PORC did not review IE Bulletins or responses to IE Bulletins. This review and evaluation had been performed by staff members. (W)

(16) The PORC Secretary maintained a log of PORC reviews and tracked the status of PORC Action Items. (I)

(17) As a result of discussions with selected PORC, ISRG and GORB members, the inspector determined that committee members were familiar with their responsibilities and applicable procedures. (S)

(18) Review committee members had not received formal training as to their review responsibilities. (W)

d. Conclusions

A safety review program that contained the regulatory requirements had been established. The PORC, ISRG, and GORB had been actively involved in safety reviews. However, weaknesses were identified, particularly, in the ISRG program and review activities. The overall evaluation of management controls in this area is considered average.

10. Maintenance

The objective of this portion of the inspection was to determine the adequacy of management controls associated with corrective and preventative maintenance activities.

a. Documents Reviewed

(1) TS 6.0, Administrative Controls

(2) JCP&L, Generation Division, Operational Quality Assurance Plan, revision 2

(3) Operational Quality Assurance Manual Procedures Generation Department

- 2002, Nonconformance and Corrective Action, revision 2
- 2004, Document Control, revision 0

- 2005, Document Retention, revision 0
- 2006, Modification, Non-Routine Maintenance and Repair, revision 0
- 2009, Control and Distribution of As-Built Drawings, revision 0
- 2014, Document Center, Organization and Responsibilities, revision 0

Operational Quality Assurance

- 4001, Quality Assurance Origanization, Responsibilites and Qualifications, revision 1
- 4005, Operational Quality Assurance, Control of Nonconformances and Corrective Action, revision 1
- 4012, Procedure for the Preparation and use of Quality Assurance Checklists, revision 2

Nuclear Generating Station

- 5001, Management Organization, Responsibilities, Authorities, and Qualifications, revision 1

Generation Engineering

- 6001, Organization and Responsibilities, revision 0
- 6003, Modification, Non-Routine Maintenance, and Repair, revision 1
- 6009, Installation, Fabrication, Engineering, Test, and Inspection Specification, revision 0

Generation Construction and Maintenance

- 7001, Organization Responsibilities, Authorities, and Qualifications, revision 0
- 7003, Generation Maintenance Document Control, revision 0
- 7005, Generation Maintenance Repair, Maintenance and Modification Control, revision 0

(4) Site Administrative Procedures

- 101, Organization and Responsibility, revision 7
- 101.1, Plant Operations Review Committee (PORC), Action Items, revision 1

- 103, Station Document Control, revision 4
- 105, Maintenance, Repair, and Modification Control, revision 7
- 112, Oyster Creek, Calibration of Maintenance Test and Inspection Tools, Gauges, and Instruments, revision 6
- 114, Testing, revision 0
- 118, Preventative Maintenance Administrative Procedure, revision 2
- 120.1, Welding, Burning, and Grinding, Administrative Procedure, revision 4

(5) Memorandum to J. T. Carroll Jr. from J. L. Sullivan Jr., November 5, 1979. Goals and Objectives - Operations/Maintenance/Management Control

(6) Ltr, 9/21/79, D. A. Ross to I. R. Finfrock relating to manpower appropriations

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Items

(a) Procedure 105, Maintenance, Repair, and Modification Control, described the licensee's administrative controls for maintenance. A total of 14 - Job orders (QASL) were reviewed to determine how effectively this maintenance program had been implemented in the last 12 months.

The review indicated that some maintenance work was not being performed as required and that documentation of the work performed had not been accomplished in accordance with the above described procedure.

- Procedure 105, section 5.1.3 required that maintenance which can effect the performance of safety related equipment will be properly preplanned and performed in accordance with written procedures.

QASL job order 2148M indicated the need to repair a broken yoke on a cleanup system demineralizer bypass valve. The work was considered catagory I (within craft capability), and the job order indicated only that a certified welder repaired the broken yoke. There were no records of weld procedures, permits, and welder certification.

The licensee stated they did not know why the job order indicated that welding was performed, because the broken yoke was repaired by braizing. When questioned whether they considered the possibility that the repair was a design change or as a minimum, a non-routine repair, they stated they had not.

- Procedure 105, Appendix B, section 5.2.3 required the licensee to identify all material used in the work for the purpose of traceability.

Job order 2493M identified a valve bonnet replacement in the clean-up system. A note on the job order indicated that the bonnet was taken from an identical valve, from pre-QA operational spares and was used.

There was no record to indicate that an engineering evaluation was made to determine the acceptability of the replacement bonnet. In discussions with a licensee representative he stated that a written evaluation had not been made, however, he had talked to QA about the bonnet and received a verbal "OK" to use it.

- Procedure 105, Appendix B, section 5.2.4, required the recording of post maintenance testing. Job orders 0816E, 0836E, and 1092E did not identify what type of testing was accomplished. Some job orders had notes such as "test ok" without identifying what the test was and what the acceptance criteria were.

A licensee representative stated that the problem with failure to identify the type of test conducted after maintenance was recently recognized by management and as a result the documentation of tests conducted was now being accomplished on current job orders. This statement was not confirmed.

- Procedure 105, Appendix B, section 6, required that completed job orders be reviewed and the equipment history files updated.

While reviewing the equipment history file the inspector noted that the file had not been updated as required.

In discussions with a licensee representative the inspector was informed that the reason for not maintaining the history file was because of a lack of manpower.

Additional indications of problems with the implementation of the maintenance program was observed by reviewing the Nonconformance/Corrective Action Reports (NC/CAR) issued monthly by the QA department. In the August, 1979 printout there were 46-open items for the maintenance department alone.

- NC/CAR's 79-061 and 79-062 identified that studs, previously rejected because of thread damage, were used in the installation of "E" electromatic relief valve. These nonconformances were issued in April, 1979. The maintenance department had not responded to date.

- On June 17, 1977, NC 79-473 was issued indicating that unacceptable indications were identified on clean-up system valve NO-11. The valve was reassembled without replacement or repair. The target date for corrective action was December 1979, 2 1/2 years after the issuance of the nonconformance.

- NC 77-375 identified hangers and snubbers in the Feedwater piping as having corrosion on various bolts and support welds. In discussion with a licensee representative, he stated that site maintenance claimed to have resolved the problem but would not allow the lagging to be removed in order for QA to verify the completion of the corrective action.

The merit of each of the 46-NC/CARs must be evaluated for significance to safe operation. The maintenance department did not appear to make a written evaluation for significance in that the majority of the nonconformances were not responded to.

In discussions with management at the corporate office, the inspector was informed that management was aware that significant problems existed in the maintenance department at the site and had started to implement a plan to correct that area. To verify this statement the inspector reviewed a confidential survey conducted on the Maintenance Department by top members of management in May 1979. The review confirmed that management was very much aware of the problems in this area.

In addition to the confidential survey, a review of site management's goals and objectives (ref. 10.a.(5)) indicated that management was planning positive action. As a result of these findings, the licensee was informed that the concerns identified in the maintenance department was an unresolved item (219/79-18-21).

(b) The Licensee's Preventative Maintenance (PM) Program had not been adequately implemented in that 20 percent of the required PM work had actually been accomplished; the master index had not been maintained; and documentation of supervisory reviews of PM work had not been completed.

The licensee stated that the site PM program had not been properly implemented because of a manpower shortage. The licensee recently appropriated funds to resolve this deficiency (ref. 10.a.(6)). This was identified as an unresolved item (219/79-18-22).

(c) Control of job orders from the time the job order was written, to the time the work was completed, appeared inadequate. Once a job order was written the supervisor assigned the work to a maintenance foreman and logged the assignment in a logbook. The job order was then sent to the assigned individual and was not tracked for status. A review of the job order logbook indicated a large number of QASL job orders not completed. The licensee was given job orders 2665M, 2926M and 3057M and asked to determine the status of each. The inspector was informed that these particular job orders had been assigned to a foreman who recently terminated employment; however, given additional time, the status of the job orders would be found. This was identified as an unresolved item (219/79-18-23).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) Many QASL job orders were completed using vendor manuals instead of a written procedure. The licensee's Plant Operating Review Committee did not review vendor manuals. (W)

(2) A group Maintenance Foreman stated he was not aware of anyone maintaining an equipment history file. (W)

(3) Surveillance tests, performed to assure operability after completion of maintenance work on safety systems, were not filed with the maintenance job order and were not referenced on the job order. Traceability did appear adequate however. (I)

(4) In discussions with hourly employees in the mechanical maintenance department, the primary concerns identified with these people appeared to be; (a) lack of training; (b) poorly planned work; and (c) little or no communications between supervisory and hourly personnel. (W) Licensee management recognized this problem in May, 1979 (ref. 10.a(5)), and had included corrective action in their planned goals. (S)

(5) The Maintenance Engineer reported that he held "tailgate" sessions with his foremen to keep them aware of current happenings (S); however, this type of communications was not provided to hourly employees. (W)

(6) The preventative maintenance program at the site was managed by site management with no technical assistance from the corporate office. GCMD personnel stated they provided manpower needs for the PM program when requested by the Station Manager. (I)

(7) There was no trending of corrective maintenance performed on plant equipment to detect changes in equipment performance. (W)

(8) The licensee maintained a small group of maintenance personnel onsite for day-to-day maintenance work. Other available work forces for outage work was supplied by GCMD. (I)

(9) In August 1979, the licensee revised their program for taking equipment out of service. Discussion with site personnel indicated the revised program had been very effective for controlling equipment tagout. (S) Site personnel also stated that previous to the revised program, a lot of equipment was removed from service by verbal instructions. (I)

(10) The Operational Quality Assurance Plan described non-routine maintenance as maintenance that required assistance from Generation Engineering or GCMD. Job orders identified as non-routine occasionally were sent to the above identified departments a year prior to the time the work was accomplished. These job orders were tracked by the licensee's "outage plans" however, the Group Shift Supervisors were not aware of this tracking method and indicated they were not adequately informed prior to the actual start of the work. (W)

(11) The numerous open items in the QA nonconformance reports and audit findings indicated an apparent lack of support of the QA program by management. (W)

(12) JCP&L allowed "bumping privledges" to senior employees in the event of a "reduction in force" in the company. (I) This meant that a maintenance man with 5 years experience at the site could be "bumped" by an employee with more seniority in the company but little or no experience in maintenance work at the Oyster Creek Station. (W) A member of management stated that when this happens the inexperienced individual was not allowed to work on anything by himself until he was adequately trained. As noted previously, (ref. section 7 of this report), with the exception of OJT, training was essentially not done. (W)

(13) The Operational QA Plan required that in the event a piece of equipment or item within a QASL identified system was determined to be non-Q, the determination must be made and approved in writting by the Manager, Generation Engineering. (S) In discussions with the site Maintenance Engineer he stated that when a determination was needed he contacted Generation Engineering on the telephone but did not receive a written verification to confirm the verbal determination. (W)

d. Conclusions

The licensee appeared to have a well defined written program to assure that maintenance work would be performed and tracked in an acceptable manner.

The findings and observations identified during the inspection indicated the licensee had failed to adequately implement their written program and as a result, the quality of some of the work performed in the maintenance area was questionable.

The morale problems in the maintenance department identified by the inspector and by corporate management in their survey in May, 1979, could be attributed primarily to poor communications, inadequate corporate management support regarding manpower needs, and inadequate training. The effect of TMI on the licensee could also be a contributing factor; however, the significant problems in the maintenance department were readily recognizable prior to that incident.

Once the licensee became aware of the maintenance program weaknesses, it appeared that positive steps were taken to correct the problems. The licensee replaced key supervisory personnel, appropriated funds for additional manpower and a craft training program, and had started to plan interim measures to reduce the impact of those areas requiring long term corrective action.

The licensee had made no official commitment regarding when their planned program changes would be fully implemented and had not, prior to the inspection, identified all the goals and objectives necessary to effectively pursue their objective. The licensee should be required to officially commit themselves to their planned program and to clearly identify interim measures to be taken to assure a minimum impact on safety. The licensee's management controls in the maintenance area was poor.

11. Quality Assurance Audits

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls associated with quality assurance audit and surveillance activities.

a. Documents Reviewed

(1) Administrative Procedures

- 101, Organization and Responsibility, revision 7
- 102, Training of Nuclear Generating Station Personnel, revision 2
- 104, Control of Nonconformances and Corrective Action, revision 1

(2) Geheration Department Procedure 2002, Nonconformance and Corrective Action, revision 2

(3) Quality Assurance Procedures

- 3001, Site Quality Assurance Surveillance, revision 2
- 3011, Site Quality Assurance Document Control, revision 0

(4) Operational Quality Assurance Procedures

- 4001, Quality Assurance Organization, Responsibilities, Authorities, and Qualifications, revison 1
- 4002, Operational Quality Assurance Training Requirements, revision 7
- 4005, Operational Quality Assurance Control of Nonconformances and Corrective Action, revision 1
- 4008, Requirements for the Operational Quality Assurance Audit Program, revision 7
- 4012, Procedure for the Preparation and Use of Quality Assurance Checklists, revision 2

- 4015, Operational Quality Assurance Personnel Qualifications and Certification, revision 3
- 4021, Contractor Appraisal, revision 2
- 4022, Contractor Audits, revision 1

(5) JCP&L Quality Assurance Plan

(6) JCP&L Oyster Creek Station Technical Specification 6.0

(7) Site Quality Assurance Instructions

(8) QA Audit Schedule for 1979

(9) Open Audit Notices Printout, October 4, 1979

(10) Open Nonconformance/Corrective Action Report, September 1, 1979

(11) Audit Reports

- 77-13, Health Physics Department
- 77-14, Chemistry Department
- 77-20, Emergency Plan
- 77-23, Nonradiological Environmental Monitoring
- 77-24, Radiological Environmental MOnitoring
- 77-25, Department Organization
- 77-27, GORB Activities
- 77-30, ISRG Activities
- 77-32, Nonradiological Environmental Monitoring
- 78-03, Purchasing Department
- 78-13, Plant Operations
- 78-19, Emergency Plan
- 78-20, GORB Activities
- 78-21, Control of ISRG Activities
- 78-22, Core Engineering

- 78-25, Training
- 78-26, Chemistry Department
- 78-27, Health Physics Department
- 78-28, Radiological Environmental Monitoring
- 78-30, PORC
- 78-51, Nonradiological Environmental Monitoring
- 79-04, Radioactive Material Packaging
- 79-07, Corrective Action Control
- 79-08, Calibration Control
- 79-14, Corrective Action Control
- 79-15, Plant Operations
- 79-23, Surveillance Testing
- GORB Meeting No. 69
- GORB Meeting No. 70
- GORB Meeting No. 73
- GORB Meeting No. 74
- GORB Meeting No. 75

(12) Biannual Manager Review - Operational QA Program, March 25, 1977

(13) QA Finding Analyses

- Surveillance Testing, March 27, 1979
- Fire Protection Program, March 27, 1979
- Storeroom, March 27, 1979
- Security, March 27, 1979
- Maintenance, March 27, 1979
- Audit Notices Related to Procedures, June 14, 1979

(14) Surveillance Testing Observation 76-06-08, Air Ejector Off Gas Radiation Monitors

(15) Surveillance Testing Observation 79-01-08, Standby Gas Treatment Test

(16) QA Inspection Report 79-149, Radioactive Waste Shipments

(17) NUS Audit of the Health Physics Department, February, 1979

b. Findings

(1) Items of Noncompliance

(a) 10 CFR 50, Appendix B, Criterion V, and OQAP, Section X, require that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Generation Department Procedure 2002, Nonconformance and Corrective Action, established a system for the control and implementation of nonconformance and corrective action. This procedure required, in part, the establishing of a corrective action target completion date within a ten working day period, following notification of the nonconformance, and the resolving of the nonconformance in a timely and complete manner.

Contrary to the above, corrective action target completion dates were not always established within ten days, or the reason was not always given for not being able to do so. Also, corrective action appeared untimely in many cases. A Review of Open Nonconformance/Corrective Action Report, September 1, 1979, identified 143 outstanding items. Of these, 71 were overdue for establishing a target completion date, and 29 target dates were past due in that the nonconformance had either not been resolved or the target date changed as required. Also, a review of an Open Audit Notice Printout, October 4, 1979, identified 127 open audit notices, of which 62 were overdue for completion of corrective action.

This was identified as an apparent item of noncompliance (219-79/18-24).

(b) Technical Specification 6.5.3.5.b requires that the training and qualifications of the entire facility staff be audited at least once per year.

Contrary to the above, for the three year period of 1977 through 1979, one audit in this area was started in 1977 and completed on January 1, 1978, and an audit was scheduled for completion in 1979. Therefore, only two audits would have been performed in a three year period.

This was identified as an apparent item of noncompliance (219/79-18-25).

(2) Deviations

None.

(3) Unresolved Items

None.

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) The JCP&L Operational Quality Assurance Plan had not been approved by NRR. The licensee stated that the Plan had been submitted for approval in June, 1978. (I)

(2) The proposed Operational Quality Assurance Plan appeared to be designed to address the requirements of the 18 criteria of 10 CFR 50, Appendix B. (I)

(3) Procedures describing the audit requirements and audit performance had been written and implemented. (S)

(4) Procedures outlining the qualifications and responsibilities of QA personnel had been written and implemented. By record review, the inspector determined that all designated auditors met the established requirements. One lead auditor, who participated in most of the internal audits, was not a regular JCP&L employee but had been retained as a full time consultant in the audit area. (I)

(5) An audit schedule identifying the required audits had been prepared. Individual audit plans were prepared by the lead auditors performing the audits. Preparation consisted of reviewing previous audit findings, nonconformances, NRC findings, etc. Checksheets were used extensively. (S)

(6) By reviewing audit plans and audit reports, the inspector determined that audits appeared to be thorough, and audit findings were presented in a professional manner. (S)

(7) The required Biannual Management Review of the QA Program had been performed by outside consultant firms. (I)

(8) QA specialists routinely performed surveillance activities on a two shift basis. Surveillances had been formulated and performed in accordance with written procedures. (S)

(9) Contractor personnel had been utilized to assist the site QA inspection staff in certain areas of expertise, particularly NDE activities. (I)

(10) Interviews with site personnel revealed apparent problems in communication and/or cooperation between site QA and other plant personnel. Some supervisors were particularly critical of QA surveillance activities. (W)

(11) No routine formal classroom training had been provided for QA Specialists. (W) Personnel assigned to site QA were initially evaluated on their previous training and work history. Based on this evaluation, personnel were designated as either QA Specialists I, II, III, or Senior. At the time of the inspection, there were five QA Specialists II, one Specialist III and one Senior Specialist in the on-site QA orginization. Procedures outlining the requirements for each specialist classification had been written. (I)

(12) During interviews with plant personnel, some criticism was expressed as to the lack of qualifications and expertise of QA Specialists. A QA management representative stated that a formal training program for QA Specialists was being considered. (I)

(13) QA training for Corporate staff personnel had not been performed since 1977. QA indoctrination training had been given to plant personnel on a yearly basis; however, the quality of this training appeared to be minimal. (W) A QA licensee representative stated that an expanded QA indoctrination program was being prepared. (I)

(14) Management had not fully supported the audit and surveillance program. There was a lack of followup by management to take the necessary actions to correct the unresponsiveness of staff members with regards to audit findings and nonconformances [reference 11.b.(1)(a)]. (W)

(15) Individuals with nuclear power plant experience in health physics and/or radiochemistry had not been included as team members for corporate audits or site surveillance observations of health physics and radiochemistry activities. (W)

(16) Corporate audits performed in 1977-78 of health physics activities resulted in about 40 audit notices. These audit results were also reviewed by GORB. Even with the large number of audit notices, an investigation was not initiated by the licensee to determine if conditions within the health physics department were deteriorating. It was not until requirements were placed on the licensee as a result of the Region's inspection findings that action was taken to correct problems within the health physics department. (W)

(17) The site QA department had not performed surveillance observations nor established a surveillance observation program for health physics activities. (W)

(18) The licensee had not performed a QA audit of the off-site vendor that supplied and processed thermoluminescence (TLD) devices. A brief review was conducted in 1975 of services available from this vendor. This review did not include a QA audit regarding the vendor's products and capabilities. (W)

(19) The surveillance observations performed by the site QA department regarding radiochemistry activities were brief and limited in scope. (W)

d. Conclusions

The surveillance and audit teams had not included individuals with health physics and/or radiochemistry nuclear power plant experience. The site QA department had not performed surveillances of health physics activities.

The identified licensee's strengths in the audit and surveillance program did not offset the identified weaknesses, particularly, the failure of management to take the necessary actions to correct the unresponsiveness of staff members in support of the QA program. Therefore, the overall evaluation of the licensee's management controls over this area was considered poor.

12. Procurement

The objective of this portion of the inspection was to determine the extent and adequacy of management controls associated with procurement.

a. Documents Reviewed

(1) JCP&L Co. Purchasing Policies and Procedures, Control Copy 126, 12/18/78

(2) Operational Quality Assurance Plan, revision 2, 6/30/78

(3) Procedures

- 2001, revision 3, 11/1/79, Administration of Procurement
- 2004, revision 1, 9/10/79, Generation Division
- 2011, revision 0, 7/12/76, Content of Procurement Documents - Attachments A through E.
- 2005, revision 0, 7/15/74, Generation Department Document Retention System
- 2016, revision 0 7/13/76, QA System Boundary and Classification Book
- 2020, revision 1, 1/10/78, Identification and Notification of Deviations in accordance with 10 CFR 21
- 2021, revision 1, 1/10/78, Evaluation of Deviations in accordance with 10 CFR 21
- 2023, revision 1, 11/15/78, Noting Procurement Documents in accordance with Provisions of 10 CFR 21
- 3005, revision 3, 12/7/77, Site Material Conformance Identification
- 3001, revision 2, 6/12/78, Site QA Surveillance
- 3003, revision 2, 11/1/77, Site QA Receipt Inspection of Materials, Parts and Components
- 4007, revision 5, 3/15/78, Operational QA Procurement Verification
- 4010, revision 3, 4/27/78, Contractor Surveillance
- 4016, revision 1, 1/18/78, Procurement Document Review
- 4017, revision 2, 1/24/78, Administrative Control of Procurement Verification
- 4018, revision 1, 4/27/77, OQA Shipment Release

- 4020, revision 1, 2/28/78, Evaluation of Contractor Quality Programs
- 4021, revision 2, 2/28/78, Contractor Appraisal
- 4022, revision 1, 1/19/78, Contractor Audits
- 4023, revision 3, 3/23/79, Contractor Classification List
- 4025, revision 0, 3/28/78, Procurement Control
- 6001, revision 0, 10/24/74, Generation Engineering Organization and Responsibilities
- 6003, revision 1, 3/26/76, Modifications, Non Routine Maintenance and Repair
- 6005, revision 0, 10/8/74, Generation Engineering Review of Contractor Documents
- 6009, revision 0, 5/28/76, Installation, Fabrication, Engineering Test and Inspection Specifications
- 6004, revision 0 10/18/74, Generation Engineering Evaluation of Contractors
- 110, revision 2, 11/8/76, Handling and Storage of Materials, Parts and Components
- 121, revision 2, 6/12/79, Storage Room Instructions
- 117, revision 0, 6/08/76, Material Identification and Control
- SQAI-006, Rev. 2, 12/14/77, Procurement Document Review

b. Findings

(1) Items of Noncompliance

10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings and OQA Plan, Section X require that activities affecting quality shall be prescribed by documented instructions, procedures or drawings...and shall be accomplished in accordance with these instructions, procedures..."

Procedure 3005, Site Material Conformance Identification, Revision No. 3, 12/7/77 paragraph 5.3.1 stated that Quality Assurance shall identify the conformance status of the item being returned to storage and retagged or restickered if required. Paragraph 5.1.7 required that - Items which conform with specified requirements and were released for use or placed in storage, did not require re-inspection upon removal from storage, and paragraph 5.1.8 required that - Items which conform with specified requirements but were placed in storage require re-inspection prior to removal from storage. Reinspection would be required for items used in various systems that were subject to obsolescence due to code changes (such as weld rod).

Contrary to procedure 3005, on October 29, 1979 returned weld rods were observed to be in storage with tags identifying the item as released for use. These weld rods, were not re-identified and so designated with appropriate identification for the current status of the stored material, to assure re-inspection before a release for use could be reassigned. This constituted an apparent item of noncompliance (219/79-18-26).

(2) Deviations

None.

(3) Unresolved Items

(a) An audit of the Contractors Classification List had not been performed. This was an unresolved item pending the completion of the currently initiated audit and inclusion into audit instruction for the periodic addressing of this area (219/79-18-27).

(b) Once an item was issued from stores and stored elsewhere, there was no mechanism to control use of the item after its shelf life had expired. This was an unresolved item pending the licensee's review of current procedures for inclusion of a control over such items (219/79-18-28).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) Procedure 2011 addressed requirements for suppliers to provide inspection and maintenance instructions for equipment while in storage. The supplier was expected to

designate shelf life, cure dates, etc. Information of this nature remained to be obtained for the development of a preventative maintenance and shelf life program. (W)

(2) Generation Engineering had a responsibility for the development of purchase requisitions for engineering tasks. Requested assistance was provided in the development of specifications for an item. Generation Engineering had on call technical service responsibility for purchase requests. Other departments had provided technical input. Generation did not perform a technical check on every procurement. If there was a question on material, part, or component classification, Generation Engineering was available, but only became involved on request. (I)

(3) Every component in a system listed in the Quality Assurance System List (QASL) was given QA coverage if the listed system was not included in the Systems Boundary Classification Book (SBCB). (I)

(4) Generation Engineering had the responsibility for evaluating the technical adequacy of a vendor. There were two other areas that required evaluation and they were quality assurance adequacy and commercial adequacy. These aspects of vendor capabilities were the responsibilities of OQA and Materials Management respectively. The evaluation, technical and QA, had been considered acceptable when performed by recognized accredited outside organizations. (I)

(5) Generation Engineering was active in reviewing and reassessing the QASL systems. (I)

(6) The assurance that the QASL was properly used was based on a check and balance arrangement relying on receipt information and contractor evaluation. (S)

(7) The System Boundary and Classification Book was developed on a case by case basis. Plans included a re-definition of this book and development of the book to a completed status. (I)

(8) Purchase work load showed an exponential growth pattern and would require increased QA involvement. Plans included increased use of computer data storage and a continal up-grading of the Contractor Classification List (CCL). (I)

(9) QA checked purchase orders for 10 CFR 21 consideration notations. (S)

(10) Generation Nuclear had an indirect role in procurement. Support for this function was required from other managers. (I)

(11) Site QA was responsible for receipt procurement document review, receipt inspection, and OJT training of inspectors. Training was not specific to receipt functions but toward a specified inspector level. Retraining requirements were not specified. (W)

(12) Site QA was currently involved in a massive inspection effort with stores to separate items on site for placement into the new storage building. (I)

(13) QA performed surveillance of contractors. All results were sent to corporate OQA by memorandum for use in the data base for updating the CCL. (S)

(14) Procurement responsibilities accounted for the largest single work load for site QA inspectors. (I)

(15) The QASL was used by the initiator of a purchase request. Site QA performed a service to assure QA coverage when required. The Generation Engineering Department had prime responsibility for use of the QASL. There was a memorandum listing specific persons allowed to generate purchase requests. A procedure addressing requirements and limits for site prepared procurement documents had been written and required final approval. (S)

(16) There was no formalized training program in the procurement area for managers or purchase request authorized listed persons. (W) A training lecture was provided in 1979 and plans were to develop a training requirement in cooperation with Materials Management, QA and Plant persons. (I)

(17) The Manager of Material Systems attended Material Management Division meetings. Meetings were held quarterly with each operating materials district. There was no formalized meeting schedule to meet with the VP of Generation, but there was a Nuclear Supplies Supervisor of Stores on site. Oyster Creek visits by the Manager of Materials System was on the order of three times per month. (S)

(18) The Supervisor of Stores was responsible for NRC findings. An earlier NRC inspection resulted in over 20 findings that had been addressed. Most of the findings were cleared in a 2 month period. (I)

(19) Self audit was performed in Stores and was approved by the Superintendent of Stores. Reliance on QA in the past was found to be on too long a cycle. Performance of documented self audits were performed each month. (S)

(20) Stores personnel performed an initial inspection of received items. The inspection was to assure that there was no obvious damage. Site QA inspectors were given the received documentation and were responsible for the final hands on QA inspection. (S)

(21) Site QA was responsible for auditing limited shelf life items. A new procedure was being developed to address this issue. (I)

(22) There was no formal storage preventative maintenance program established. (W) A description of this program with designated responsibilities was currently being developed. (I)

(23) Procedure 2001, Administration of Procurement, established the responsibilities and methods for the procurement of materials, parts, components, and services for the modification, maintenance, repair, operation, test, inspection, and construction of those systems and components within the scope of the QASL. (S)

(24) The types of purchase agreements used were; Purchase orders for materials, parts, components and specific services such as Inspection Support, NDE, welders, painters, etc.; and Service Agreements provided for nonspecific services with engineering organizations to obtain engineering consultant assistance. (I)

(25) Changes to procurement documents were addressed in a procedure. Change responsibility was vested with the document originator and changes required the same approval as the original document. (S)

(26) The requisitioning originator reviewed bids for completeness, content and accuracy. Generation Engineering reviewed bids when there were exceptions to approved Generation Engineering Specifications. (S)

(27) OQA reviewed bids for quality assurance related aspects. (S)

(28) Contractors were required to be evaluated for technical and quality standing as a minimum, once every 5 years. (I)

(29) Contractors were required to submit nonconformance notices to the purchaser and were to include contractor recommended disposition with technical justification. The contractor was required to maintain a record of nonconformance and corrective actions. (S)

(30) A corrective action process was procedurally addressed and included measures to be taken to preclude recurrence. (S)

(31) Procedural guidance was provided in the 2011 series of procedures and addressed the content of specific procurement documents for a type of item or service. (I)

(32) Operational QA was required to review procurement documentation. Active records were maintained in the OQA Contractor File. A final document retention system was addressed in procedures. (S)

(33) Guidance was provided by procedure for the determination of applicability of 10 CFR 21. (S)

(34) Conformance status categories for QASL purchases were established as: Hold; Nonconforming; Rejected; Released for Installation but not for use; Accepted; or Released for Use. (I)

(35) Accepted items removed from storage were re-inspected by QA prior to the point of use or installation. The inspection included a review for shelf life, physical damage, code requirements or obsolescence, and verification of traceability, and applicability. (S)

(36) A System of Nonconformance and Corrective Action Reports had been established to identify nonconformance. The close out action for listed purchase nonconformances appeared to lack timeliness. The procedure directive on corrective action follow up was weak and/or lacked management backing. The Site Purchasing Agent had planned to establish a resolution of Status on listed outstanding nonconformances and stated it would be accomplished by November 19, 1979 [reference 11.b.(1)(a)]. (W)

(37) Stores personnel were given training which was in accordance with a check list. This training was performed during the first 90 days of hire. The supervisor verified acceptance and signed the check sheet to indicate that the person was qualified. The licensee was establishing a training program which would include re-training of Stores personnel. (W)

(38) Materials Management Division did not have a formalized temporary procedure mechanism nor a designated frequency for a review of their procedures. (W)

(39) No serious attempt to control limited life material had been made in the past. (W) A new procedure on shelf life was being developed by Stores. (I)

(40) Tagging was considered the method used for material separation control for QA and non QA items. (I)

The following observations were derived from the Purchase Policies and Procedures manual used by the procurement division for establishing procurement policies and interfaces with Generation.

Reference JCP&L Purchasing Policies and Procedures Control Copy 128, assigned 12/28/78, effective date 12/18/78. This was a new manual and superseded the "Purchasing Methods and Procedures" January 1, 1976.

(41) The licensee's procedures required the use of purchase requisitions for all purchases greater than $50 and for repetitive purchase of materials and services. (I)

(42) The Purchasing Department required an approved purchase requisition prior to issuance of inquiries, negotiations, and entering into a purchase order. (S)

(43) The originator of the purchase requisition was responsible for furnishing the details such as specifications, applicable QA requirements, etc. Exhibit A of this manual had the authorized Signatory List for purchase requisitions. The Signatory List needed to be changed with the change in organizational structure at OC. (S)

(44) All incoming purchase requisitions were logged in the Departmental Log. (S)

(45) The buyer obtained bids, evaluated bids, selected the vendor and processed purchase orders. (I)

(46) Provisions were addressed for emergency purchase requisitions. (I)

(47) Purchase requisition requirements for QA procurements were addressed. This applied specifically to nuclear station equipment for 10 CFR 21 statements which must be included in the purchase requisition. A purchase request without these statements would be returned as incomplete. (S)

(48) When 10 CFR 21 applied, purchasing advised all bidders. If a bidder refused to comply with 10 CFR 21 and this could not be resolved by the buyer, the problem went to the responsible approval manager, or superintendent for reappraisal. Documentation such as certificates, test results, and special reports would be listed as separate line items on the purchase request. QA Receipt Inspection would be listed. All procurement for nuclear-related equipment or services would use contractors listed on the Contractor Classification List and Procurement Control Procedure. Operational QA could provide a buyer

with an interim approval for a contractor. The Manager of Purchasing was allowed to order from an unapproved supplier when the pre-established purchase order requirements for surveillance and control were prescribed. The requisitioner and QA had to agree that these additional requirements would assure technical and quality adequacy. (S)

(49) Purchasing could request an evaluation of a supplier by Operational QA. (S)

(50) All purchases were made on a competitive basis from at least 3 suppliers to the maximum practical extent. Exceptions were specified. Quotation content included, but was not limited to, the statement of work, QA requirements, terms and conditions, blueprints, specifications, quantities, and delivery schedules. Technical proposals would be separable from the part of the bid containing prices. (S)

(51) Provisions were described for articles or services that were complex or had critical lead times and allowed for a bidders conference which included the purchase requisitioner, other JCP&L persons, and the buyer to meet with the bidders. (S)

(52) The cognizant buyer had overall responsibility for the evaluation of bids and the selection of a successful bidder. Where advisable, technical or QA evaluations were requested from the appropriate operating departments. (I)

(53) The purchase order was the document used to formalize a purchase transaction and would contain all the elements of a contract. (I)

(54) The purchase order was controlled numerically. This assured control, traceability, and accountability of departmental records. (S)

(55) Receipt of material and services by purchasing was documented on a Materials Received Report (MRR). (S)

(56) The manual addressed a purchasing filing system/control to satisfy, among others, company and governmental record retention requirements. (S)

(57) Provisions were described for the issuance of change notices to the supplier. (S)

d. Conclusions

The licensee had a well developed procedural approach to purchasing activities. The personnel in the Materials Management

Division and the Generation Division were knowledgeable with respect to their responsibilities.

There was a need for the development of a specific training program to provide an increased awareness of the roles that require interface involvement from the various personnel in different departments. Instructions at all levels of personnel were needed and was recognized by management.

There was a need for closer checks on vendor-contractor classification status to assure an accurate CCL for use by purchasers.

There was a need for closer coordination of specification documentation receipt especially technical documents specified for storage, preventative maintenance, component/system installation etc. This included the need for closer coordination with Generation Construction requirements [reference 4.b. (3)(d)].

There was a need for a faster, more timely response to identified procurement nonconformance outstanding items.

The new storage facility was being stocked and would alleviate past storage shortcomings on receipt storage and dispersal.

The overall purchasing effort, in general, was in a state of change and should be reviewed for continued progress by Region I in the coming year. Management controls in the area of procurement was average.

13. Radiation Protection

The objective of this portion of the inspection was to determine the extent and adequacy of the licensee's management controls over the Radiation Protection Program.

a. Documents Reviewed

(1) FSAR, Section 12, Conduct of Operations

(2) Technical Specifications, Section 6, Administrative Controls

(3) Radiation Safety Manual, August, 1979

(4) Radiation Protection Department Instructions, Numbers 1.1 thru 7.9

(5) Radiation Protection Procedures

- 901.7 revision 0, Time Schedule for Radiation Protection Activity or Function
- 902.5, revision 13, Preparation for an Initial Drywell Entry
- 902.6, revision 9, General Drywell Clearance
- 902.7, revision 1, Drywell Occupancy and Evacuation During Fuel Handling Operation
- 902.8, revision 0, Drywell Fuel Handling Radiation Monitoring Testing
- 903.6, revision 14, Personnel Regulations
- 903.9, revision 1, Daily Exposure and Access Control Card
- 904.9, revision 0, Respiratory Usage Data Card
- 906.6, revision 3, Dosimetry Issue
- 906.12, revision 3, Personnel Termination
- 906.13, revision 0, Lost Dosimetery
- 906.15, revision 1, Personnel Files
- 906.17, revision 1, Spike Testing and Leak Testing Self-Reading Dosimeters
- 906.20, revision 0, Calibration of 9100 TLD Reader
- 907.11, revision 4, Air Sample Using a Low Volume Sampler
- 907.13, revision 0, Air Sample Using a High Volume Air Sampler
- 908.1, revision 2, Portable Radiation Survey Instrument Calibration
- 908.2, revision 1, Multiple Source Gamma Calibrator
- 908.5, revision 4, Calibration of Teletector Model 6112
- 908.8, revision 1, Calibration of PIC-6A
- 908.10, revision 8, Calibration of PNR-4 Neutron REM Counter

- 908.11, revision 1, Calibration of E530 Type Instrument
- 908.20, revision 0, Use of Condenser R-Meter
- 910.3, revision 2, End Window GM Counting System-Efficiency and Operational Check Determination
- 910.6, revision 1, Internal Proportional Counting System Efficiency, Operational Check Value Determination, and Operational Check
- 910.10, revision 1, High Volume Air Sample Filter Preparation for Counting
- 910.11, revision 3, Radioactive Analysis Air Sample
- 910.12, revision 1, Count Room Sample Preparation and Disposal
- 910.18, revision 1, Background Count, Sample Count, Multichannel Analyzer
- 910.36, revision 0, Personnel Allowable Occupancy Time Determination
- 911.1, revision 0, Radioactive Waste Material Storage
- 912.1, revision 0, Shipment of Radioactive Material
- 912.2, revision 0, Receipt of Radioactive Material
- 913.1, revision 0, Vendor Health Physics Control Station General Responsibilities
- 914.1, revision 1, Health Physic Forms
- 914.3, revision 9, Personnel Contamination
- 914.4, revision 9, Use of Protective Clothing and Equipment
- 915.1, revision, Access Control to Restricted Areas
- 915.2, revision 0, Radiation Surveys
- 915.3, revision 0, Airborne Radioactive Analyses
- 915.4, revision 0, Contamination Control
- 915.5, revision 2, Respiratory Protection

- 915.6, revision 0, Training in Radiation Protection
- 915.7, revision 0, Personnel Monitoring
- 915.8, revision 0, Bioassay Program
- 915.9, revision 0, Implementation of the ALARA Program
- 915.10, revision 0, Investigation of Radiation Incidents

(6) Health Physics (HP) logs for 1977, 1978, and 1979

(7) Standing Order No. 10, Process and ARM Alarm Set Points

(8) Memorandum to all employees regarding as low as reasonably achievable (ALARA) policy from Ivan R. Finfrock, June 18, 1979

b. Findings

(1) Items of Noncompliance

Technical Specification 6.8.1 requires in part, that written procedures shall be established, implemented, and maintained that meet or exceed the requirements of Appendix "A" of Regulatory Guide 1.33.

The inspector reviewed the licensee's calibration program for various radiological monitoring and survey equipment. Calibration procedures had not been developed as of November 2, 1979 for the following items.

- New Radiation Waste Facility Effluent and Area Monitors. This facility had been in operation since October, 1978. A calibration procedure had not been written and implemented to insure the validity of the data indicated by monitors.
- Model RO-2A Portal Survey Meters. Approximately 30 Model RO-2A survey meters were purchased in 1979 and were being used during routine plant surveys. A licensee representative stated that the meters were response tested prior to use. However, a procedure had not been written to cover the calibration of these survey meters.
- Portal Monitors. Personnel exiting the plant were required to pass through one of four portal monitors for a final radiological survey prior to leaving the site. A procedure had not been written and implemented to cover calibration of the portal monitors.

- Constant Air Monitors (CAM). One CAM was located in the control room and another in the Emergency Control Center to provide a warning to personnel in these areas in the event of elevated airborne concentrations. Other CAMs were located in the plant, but these monitors were out-of-service due to maintenance problems. Written procedures had not been developed and implemented which would permit the correlation between counts per minute (CPM) indicated on a particular CAM and maximum permissible concentrations (MPC). Therefore, even though two CAMs were in operation, the results indicated by these monitors had not been verified.

- Whole Body Counter. The licensee had established a bioassay program, consisting mainly of whole body counting, to demonstrate compliance with 10 CFR 20.103. Whole body counts were performed at the plant by the use of a mobile van which was leased from an off-site vendor. The licensee had not written and implemented a calibration procedure to ensure that the whole body counting results were valid.

- Environmental Air Samplers. A procedure had not been written and implemented to cover calibration of the environmental air samplers.

- Hand and Foot Counters. Workers exiting Radiation Control Areas were required to be monitored by a hand and foot counter. A procedure had not been written and implemented to ensure proper calibration of the counters.

- Multiple Source Gamma Calibrator. A cesium-137 multiple source calibrator was used to calibrate various portable survey instruments. During a visit to the calibration laboratory on October 30, 1979, the inspector noted that the technician performing calibrations was experiencing difficulties in obtaining reproducibility at certain source positions. The technician stated that the problem was apparently due to mechanical malfunction of the source positioning apparatus. The gamma output from the calibrator had not been verified since its receipt in 1974. A procedure had not been written and implemented which required that the gamma output be verified at an established frequency.

The failure to develop written procedures and implement a calibration program to cover the above equipment was an apparent item of noncompliance (219/79-18-29).

(2) Deviations

None.

(3) Unresolved Items

None.

c. Observations

The following observations include general information items and perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) Significant improvements had been accomplised in the Radiation Protection Program during 1979. Improvements were noted in such areas as revision of Health Physics (HP) Procedures, HP staff training, establishment of an ALARA program, housekeeping, HP staff morale, preplanning of HP activities, working relations between the HP department and other departments, and supervision of the HP department. These improvements were the results of the licensee's actions to correct findings identified during 1977-78 Region I routine inspection program. (S)

(2) The responsibility for corporate level overview of the health physics program had not been assigned to an individual or department at the corporate office. (W)

(3) A permanent JCP&L Radiation Protection Manager (RPM) had not been selected. The present RPM was a temporary contractor employee. (I)

(4) Several members of the HP staff expressed the opinion that the HP department would be able to accomplish their assigned responsibilities in a more acceptable manner if the department was not included in the bargaining unit. The two main reasons given were:

- Management had not established proper screening methods for individuals wanting to enter the HP department. The present job description specified a high school degree, or equivalent, including passing grades in physics and algebra and the necessary time and grade with the company. Proper considerations were not given to such matters as motivation, academic ability, and being able to work effectively with other individuals.
- A HP technician as a member of the bargaining unit might be reluctant to correct or report fellow union members if they were observed violating HP procedures. (I)

(5) The present procedures were not specific regarding what type of personnel dosimetry equipment was required for individuals allowed inside the restricted area. For example, personnel dosimetry could consist of any one of the following: (a) no dosimetry; (b) a self-reading pocket chamber; or (c) a self-reading pocket chamber and a thermoluminescence dosimeter (TLD).

- By signing HP-Form-903-4, Dosimetry Issue Exception Log Sheet, an individual was allowed to enter the restricted area. The intended use of this form was not described in the HP procedures.

- Access control points had not been established to ensure that proper personnel monitoring was verified prior to entry into a Radiation Control Area.

- On October 30, 1979, the inspector observed that five out of 17 individuals signing the "Visitor Log Sheet" did not sign Form-HP-903-4 nor obtain personnel dosimetry prior to entry into the restricted area.

- HP procedures only required issuing termination reports per 10 CFR 20.408 and the recording of NRC Form-5 information for individuals that had been issued a TLD. The issuance of termination reports and documentation of NRC Form-5 information were not required for individuals that had been issued a pocket chamber, even though pocket chamber readings might be higher than that indicated from a TLD.

- Personnel neutron dosimetry was not issued. A licensee representative stated that neutron doses were established based on survey data. See paragraph 13.c.(17) for observations regarding neutron surveys. (W)

(6) Acceptance criteria had not been established for the TLD Quality Control (QC) program.

- The TLD program consisted of the licensee's in-house system plus TLDs supplied and processed by an off-site commercial vendor. The "official" dose records were established from data supplied by the off-site vendor. The licensee's in-house program served as a back-up and permitted immediate information for high exposure jobs usually encountered during maintenance and refueling outages.

- The QC program consisted of twice each month exposing 20 TLDs to a known gamma field. Ten TLDs were processed in-house; the other ten were submitted to the vendor for analysis. A comparison of certain monthly results indicated that for the same reference exposure, the vendor might be high by 30 percent and the licensee low by 15 percent.

  A follow-up evaluation was not conducted to resolve the discrepancies. See paragraph 11.c.(4) for additional observations regarding QA audits of the TLD program.

- The QC program only involved gamma exposures. Evaluations of beta fields or mixed beta-gamma fields were not included.

- The majority of the monthly personnel exposures were in the 30-150 mR range. The monthly reference checks consisted of a single point test, usually near 500-600 mR. The QC program did not require several verification points that would cover the expected range of the instrument.

- The QC program did not include a cross-check with an independent off-site reference laboratory. (W)

(7) A comprehensive in-plant constant air monitoring program had not been established to provide an immediate indication of elevated airborne concentrations. Only one uncalibrated CAM was in operation and it had not been calibrated. (W)

(8) A breathing zone sampling program (lapel samplers) had not been establised. (W)

(9) Area Radiation Monitors (ARM) alarm set-points were not routinely reviewed and revised based on HP survey data. A review of recent survey data indicated that some alarm set-points (excluding certain Technical Specification items) were approximately a factor of 10 higher than normal background radiation levels. (W)

(10) A procedure had not been established to prevent terminated workers from leaving the site without the required bioassay. (W)

(11) A special bioassay program had not been established for jobs involving high beta radiation levels in order to supplement whole body gamma counts. (W)

(12) A program had not been established to correlate whole body counting results with the effectiveness of the respirator protection program. (W)

(13) The procedure explaining the Radiation Work Permit (RWP) program was brief. Only one page in Procedure 915.1 was devoted to explaining the RWP process.

- The procedure did not explain the difference between "extended" versus "one-time-only" RWPs.
- The procedure did not explain how to initiate and complete the various sections on the RWP.
- The procedure did not require that each worker listed on an RWP must read and sign the permit prior to starting the job authorized by the RWP. As a result, there was no assurance that the worker was familiar with such items as radiation levels and protective measures associated with a particular job. (W)

(14) Calibration acceptance limits had not been established for survey meters and monitoring equipment. This involved the lack of acceptance limits for at least one point on each range for portable survey meters and similar limits for other monitoring equipment. (W)

(15) Operations personnel were required to make routine weekly entries into the Old Radioactive Waste Facility (ORWF) to perform certain valve line-ups associated with liquid waste transfers to the New Radioactive Waste Facility. The general radiation levels near the valves were about 100-150 mR/hr. The ORWF was also classified as a respirator area. The operation of this facility had been terminated in October, 1978, but the facility had not been decontaminated. Working conditions did not comply with ALARA practices. (W)

(16) Several radioactive "hot spots" were present throughout the plant as a result of contaminated pipes, drains, and floors. An ALARA evaluation regarding the feasibility of removing or reducing these contaminated areas had not been conducted. (W)

(17) A routine, comprehensive neutron survey program had not been established. Survey records indicated that periodic neutron surveys were performed near the personnel air lock. However, survey records could not be located that would show that routine, indepth, surveys of the area around the drywell were performed after maintenance and refueling outages to establish if activities conducted during the outages affected previous neutron levels. A licensee representative stated that detailed neutron surveys had been performed in the past, but the records were apparently misplaced. The licensee performed a neutron survey at points around the drywell during this inspection; no unusual levels were identified. (W)

d. Conclusions

Based on comments received during interviews and a review of the HP Department's procedures and records, it was apparent that the Radiation Protection Program had improved considerably during 1979. The primary reason behind these improvements was the action taken by the licensee to correct problems identified in the program during 1978 by the Region I routine inspection program. Continued improvements in such areas as HP staff training and procedure revisions were necessary before a high quality Radiation Protection Program is achieved. The management controls in this area were considered poor.

14. Radioactive Waste

The objective of this portion of the inspection was to determine the adequacy of management controls regarding the Radioactive Waste Program. This inspection effort covered gaseous and liquid effluents, solid radioactive materials, and the radiochemistry quality control program.

a. Documents Reviewed

(1) FDSAR, Section 12, Conduct of Operations.

(2) Technical Specifications, Section 3.5, 4.5, 4.6, and 6.1.

(3) Procedures

- 406.3, revision 2, Placing the New Radwaste Exhaust Duct Radiation Monitoring System in Service
- 406.4, revision 1, Placing the New Radwaste Process Radiation Monitoring System in Operation
- 407.3, revision 2, Placing the New Radwaste Area Radiation Monitoring System in Operation
- 621.3.001, revision 3, APM/Process Radiation Monitoring Calibration and Test
- 651.3.002, revision 0, Particulate Filter Efficiency Test
- 651.3.003, revision 0, Charcoal Filter Efficiency Test
- 651.4.001, revision 6, Standby Gas Treatment System Test
- 621.4.006, revision 0, Stack Gas and Radwaste Liquid Effluent Radiation Monitor Front Panel Test

- 803.2, revision 4, Air Ejector Off Gas Sample Procurement
- 803.3, revision 1, Radioactive Liquid Waste Composite Sample
- 803.23, revision 1, Radioactive Spent Resin Prior to Shipment Sample Procurement
- 803.19, revision 3, Liquid Radioactive Waste Sample Procurement
- 803.46, revision 1, Collection of Stack Gas Sample for Analysis of Noble Gases
- 803.47, revision 1, Sampling for Total Tritium Content in Air
- 803.48, revision 1, New Radwaste Sampling Procedure
- 804.1, revision 4, Reactor Water Analysis
- 804.2, revision 1, Air Ejector Off Gas
- 804.6, revision 1, Liquid Radwaste Composite
- 804.15, revision 1, Tritium in Off Gas and Gland Seal Exhaust
- 804.23, revision 1, Process Liquid Radiation Monitor Calibration
- 804.27, revision 1, Stack and Off Gas Monitor Calibration
- 809.1, revision 1, Calibration Schedule
- 809.2, revision 1, Calibration of the Beckman LS-100 Liquid Scintillation Counter
- 809.3, revision 0, Calibration of the Beckman Widebeta Counting System
- 809.4, revision 2, Calibration of the Princeton Gamma-Tech Ge(Li) Detector
- 809.5, revision 0, Calibration of TN.11 Multichannel Analyzer
- 809.20, revision 0, Calibration of the Nuclear Data-522 Single Channel Analyzer System

- 810.5, revision 0, Preparation Procedure for Radioactive Calibration Standards
- 912.1, revision 0, Radioactive Shipments

(4) Standing Order No. 10, Process and Area Monitor Alarm Set-points

b. Findings

(1) Items of Noncompliance

(a) 10 CFR 20.201(b) requires that each licensee shall make or cause to be made such surveys as may be necessary to comply with the regulations in this part.

Based on interviews with selected personnel and a review of survey records, it appeared that effluents released from the New Radioactive Waste Facility had not been properly surveyed to determine compliance with 10 CFR 20.106. The New Radioactive Waste Facility had been in operation since October, 1978. However, the continuous gaseous and liquid effluent monitors had not been calibrated nor had samples been collected and analyzed in the laboratory to establish the magnitude of radioactive releases. The failure to perform the required surveys is an apparent item of noncompliance (219/79-18-30).

(b) Technical Specification 4.5.k.1.a.(2) requires that, at least once per every 18 months, a sample from the standby gas treatment system charcoal absorbers shall be analyzed to show greater than 90 percent radioactive methyl iodide removal efficiency.

Based on interviews with selected personnel and a review of the surveillance records, it appeared that the required tests had never been performed. It was noted that other tests required by Technical Specification 4.5.k.1. such as HEPA filter leak tests, charcoal absorber leak tests, and HEPA filter pressure drop had been performed as required. Failure to perform the required analyses is an apparent item of noncompliance (219/79-18-31).

(2) Deviations

None.

(3) Unresolved Items

(a) The licensee was unable to locate test results that would indicate if the New Radioactive Waste Facility HEPA filters had been in-place tested for leakage and removal efficiency prior to operation of the facility. There were also concerns regarding the completness of the overall pre-operational testing program.

This item is considered unresolved pending further examination (219/79-18-32).

(b) The licensee was unable to locate quality control data that would indicate whether the radiochemistry counting equipment had been tested as required. The quality control program was outlined in several 800 series procedures. Specifically, it did not appear that the following requirements were satisfied.

- Procedure 809.2, Calibration of the Beckman LS-100 Liquid Scintillation Counter. Items 6.2, 6.3, and 7.4 of this procedure addressed the use of various counting standards. The licensee's records indicated that the required standards were not used.
- Procedure 809.3, Calibration of the Beckman Widebeta Counting System. Items 7.1, 7.2, and 10.1 of this procedure listed the techniques, counting standards, and calibration frequencies. The licensee's records indicated that requirements regarding voltage plateaus, radionuclides, and calibration frequencies had not been completed.
- Procedure 809.5, Calibration of the TN11 Multichannel Analyzer. Item 6.1 of this procedure specified the containers, configurations, and geometrics to be used during the calibration process. The records indicated that calibrations were not conducted as required in the above procedures. For example, calibrations for liquid analyses were performed with the standard contained in a 50 ml bottle. However, the actual sample counting configurations involved a 10 ml petri dish for reactor coolant or a one liter bottle for liquid waste samples.
- Procedure 809.20, Calibration of the Nuclear Data Single Channel Analyzer. Item 3.4 and 5.2 required the use of counting standards

with known energies and be traceable to the National Bureau of Standards. The source used to calibrate the gross gamma counter was a piece of pitchblend ore of unknown origin.

- Procedure No. 810.5, Preparation Procedure for Radioactive Calibration Standards. Item 7.10 outlined the manner in which counting standards were to be identified and labelled. The counting standards did not appear to conform with requirements listed in the above procedure.

The Group Chemistry Supervisor responsible for maintaining quality control records stated that the required data might be available, but that he had only recently been promoted to the supervisory position and was not thoroughly familiar with the entire record system. In addition, the previous supervisor had terminated employment. This item was considered unresolved pending further examination (219/79-18-33).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) The licensee performed measurements with their Ge(Li) system on five radioactive standards furnished by the inspector. The five standards consisted of three liquid solutions and two particulate filters. These standards were traceable to the National Bureau of Standards. The licensee's results were within the NRC acceptance limits. (S)

(2) The calibration records for the plant effluent monitors indicated that the monitors were only calibrated at one point at about 50,000-60,000 counts per minute. The full range for the monitors was 1-1,000,000 counts per minute. Therefore, the present calibrations were performed at one point below 1/10 of the full range readout. (W)

(3) The Augmented Offgas Facility was not in operation. The facility was originally completed in 1977. However, problems with hydrogen explosions had resulted in the facility being in operation for a total time of less

than four weeks during the past two years. Stack releases during 1979 were about 30,000-35,000 microcuries per second. This was one of the highest release rates for any commercial reactor. (W)

(4) Each member of the Chemistry Department interviewed expressed dissatisfaction with the laboratory facilities. The following reasons were given.

- Inadequate work area. The laboratory was originally designed to accommodate two technicians. As many as eight technicians might be required to work in a confined laboratory area.
- Poor ventilation and temperature control. Conditions in the laboratory vary greatly depending on outside temperatures. Air flow was not sufficient.
- Effects of wet chemistry procedures. Fumes and vapors from wet chemistry procedures caused corrosion of analytical equipment. (W)

(5) The control room did not have an associated filter system that would permit isolation and removal of contaminates during high airborne conditions. This raised the question as to the inhabitability of the control room in the event of elevated airborne concentrations. (I)

(6) A packaging and shipping procedure, tailored to meet the needs of the typical plant HP technician, had not been developed. The only guidance provided in Procedure 912.1 was that all shipments shall comply with the regulations of the Department of Transportation (DOT) or other agencies as applicable. 10 CFR 71 and, particularly DOT regulations are complicated, voluminous documents. A procedure had not been written that extracted the salient features from the regulations which apply to the licensee's particular packaging and shipping program. (W)

(7) The inspector reviewed shipping requirements with several HP technicians that had approved recent shipments. The shipping records indicated that surveys were performed and the results recorded on the shipping forms. However, the shipping forms did not list the maximum allowable radiation levels for the various survey reference points. In addition, the HP technicians could not recall the shipping limits. Therefore, it appeared that a shipment could be properly surveyed, but allowed to leave the plant with radiation levels that exceeded the regulations. (W)

(8) Each solid radioactive waste shipment involved the completion of about seven different shipping forms. However, a procedure

had not been established to give guidance as to proper completion of the various forms. (W)

(9) Radioactive waste shipments from the New Radioactive Waste Facility involved approvals by both operations and the HP departments. The present procedures did not specify the responsibilities for each departments. (W)

d. Conclusions

The following are conclusions regarding the Radioactive Waste Program:

- The New Radioactive Waste Facility was permitted to be operated without proper pre-operation testing.
- The augmented offgas system was not in operation.
- Quality Control procedures regarding the radiochemistry laboratory counting equipment were not being followed. However, measurements performed on NRC standards were within acceptance limits.
- A radioactive waste packaging and shipping procedure, tailored to meet the needs of the licensee's program, should be established.

The licensee's management controls in this area were considered poor.

15. Environmental Monitoring

The objective of this portion of the inspection was to determine the adequacy of management controls associated with the radiological and non-radiological environmental monitoring programs.

a. Documents Reviewed

(1) FDSAR, Amendment 65, Section BII.6 (Site and Environs)

(2) Technical Specifications, Items 4.6.B.3 and 6.9.3

(3) Technical Specifications, Appendix B

(4) Semiannual reports for 1977, 1978, and 1979

(5) Memorandum to distribution from Tom Tipton, February 5, 1979

(6) Memorandum to Dick Pelrine from K. P. Staudte, June 26, 1979

(7) Procedures:

- EA 101, Temperature Sensitivity Instrument Calibration
- EA 106, Calibration of Sounding Equipment
- EA 107, Calibration of Hewlett-Packard Model 3805 Distant Device
- EA 204, Hydrographic Measurements at Oyster Creek
- 112.1, revision 0, Calibration of Technical Specification Supporting Installed Instrumentation
- 907.3, revision 4, Air Sample - Environs Monitoring System
- 1201.1, revision 0, Radiogical Sample Collection Schedule
- 1204.2, revision 1, Radiological Environmental Air Sample Analysis
- 1212.1, revision 0, Environmental Monitoring Program QA and QC General Scope
- 1212.4, revision 0, Quality Control in Environmental Sampling
- Form EN-004A, Two Week Survey
- Form EN-004B, Four Week Survey
- Form EN-004C, Twelve Week Survey
- Form EN-013, Rainwater Samples

(8) Amendment change request No. 73 to Director of Licensing from JCP&L, April 15, 1974

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) **Unresolved Items**

None.

c. **Observations**

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirement, but will provide the basis for subsequent performance evaluations.

(1) Certain portions of the radiological monitoring program did not require state-of-the-art methods. This program had been in effect since 1969 and included such outdated items as: (a) film badges instead of TLDs for direct radiation measurements, (b) gross counting instead of specific radionuclide identification, (c) background samples were not required, and (d) sampling locations were not specified. The licensee submitted Amendment Change Request No. 73 to the NRC on April 15, 1974 which included proposed changes to update the monitoring program. The licensee stated that a response had not been received regarding their proposed changes. (W)

It should be noted that the licensee had supplemented the original monitoring requirements with several additional updated sampling and analysis methods. The results from the supplemental program were also included in the semi-annual reports. (S)

(2) A program had not been established to resolve differences reported by the contracted primary and secondary laboratories that analyzed radiological environmental samples. Radiological environmental samples were collected by the licensee and submitted to a "primary" off-site commercial laboratory for analysis. (I)

As part of the QA program, certain samples were also split and sent to a "secondary" laboratory. It was noted that results from the two laboratories are not always in agreement. However, a procedure had not been established that addressed how to resolve the differences. (W)

(3) Non-Radiological Monitoring Procedures EA 101, EA 106, EA 107, and EA 204 were being revised to include quality control limits. (I)

d. **Conclusions**

Certain parts of the radiological monitoring program did not require state-of-the-art methods. Several non-radiological monitoring procedures were being amended to include quality control limits. No particular problems were identified regarding meeting monitoring requirements or management of the program. The licensee's management controls in this area were average.

16. Procedure Review

The objective of this portion of the inspection was to determine whether the licensee's procedures would satisfy the applicable TS requirements and, where appropriate, would assure that a safety system would be returned to an operable status.

a. Documents Reviewed

(1) General Plant Operating Procedures

- 201.1, Approach to Critical, revision 12
- 201.2, Plant Heatup to Hot Standby, revision 5
- 201.3, Plant Startup from Hot Standby to Rated Power, revision 2
- 202.1, Power Operation, revision 2
- 203.1, Plant Shutdown to Hot Standby, revision 5
- 205.0, Reactor Refueling, revision 2
- 205.6, Fuel Shuffle (Refueling), revision 1
- 205.7, Control Cell Unloading/Reloading, revision 6
- 205.8, Fuel Assembly Removal/Installation in Core, revision 0
- 205.9, Core/Pool Fuel Transfers, revision 0

(2) Radioactive Waste Procedures

- 406.3, revision 2, Placing the New Radwaste Exhaust Duct Radiation Monitoring System in Service
- 406.4, revision 1, Placing the New Radwaste Process Radiation Monitoring System in Operation
- 407.3, revision 2, Placing the New Radwaste Area Radiation Monitoring System in Operation
- 621.3.001, revision 3, ARM/Process Radiation Monitoring Calibration and Test

- 621.4.006, revision 0, Stack Gas and Radwaste Liquid Effluent Radiation Monitor Front Panel Test
- 651.3.002, revision 0, Particulate Filter Efficiency Test
- 651.3.003, revision 0, Charcoal Filter Efficiency Test
- 651.4.001, revision 6, Standby Gas Treatment System Test
- 803.2, revision 4, Air Ejector Off Gas Sample Procurement
- 803.3, revision 1, Radioactive Liquid Waste Composite Sample
- 803.23, revision 1, Radioactive Spent Resin Prior to Shipment Sample Procurement
- 803.19, revision 3, Liquid Radioactive Waste Sample Procurement
- 803.46, revision 1, Collection of Stack Gas Sample for Analysis of Noble Gases
- 803.47, revision 1, Sampling for Total Tritium Content in Air
- 803.48, revision 1, New Radwaste Sampling Procedure
- 804.1, revision 4, Reactor Water Analysis
- 804.2, revision 1, Air Ejector Off Gas
- 804.6, revision 1, Liquid Radwaste Composite
- 804.15, revision 1, Tritium in Off Gas and Gland Seal Exhaust
- 804.23, revision 1, Process Liquid Radiation Monitor Calibration
- 804.27, revision 1, Stack and Off Gas Monitor Calibration
- 809.1, revision 1, Calibration Schedule
- 809.2, revision 1, Calibration of the Beckman LS-100 Liquid Scintillation Counter

- 809.3, revision 0, Calibration of the Beckman Widebeta Counting System
- 809.4, revision 2, Calibration of the Princeton Gamma-Tech Ge(Li) Detector
- 809.5, revision 0, Calibration of TN.11 Multichannel Analyzer
- 809.20, revision 0, Calibration of the Nuclear Data-522 Single Channel Analyzer System
- 810.5, revision 0, Preparation Procedure for Radioactive Calibration Standards

(3) Environmental Monitoring

- EA 101, Temperature Sensitivity Instrument Calibration
- EA 106, Calibration of Sounding Equipment
- EA 107, Calibration of Hewlett-Packard Model 3805 Distant Device
- EA 204, Hydrographic Measurements of Oyster Creek
- 112.1, revision 0, Calibration of Technical Specification Supporting Installed Instrumentation
- 907.3, revision 4, Air Sample - Environs Monitoring System
- 1201.1, revision 0, Radiological Sample Collection Schedule
- 1204.2, revision 1, Radiological Environmental Air Sample Analysis
- 1212.1, revision 0, Environmental Monitoring Program QA and QC General Scope
- 1212.4, revision 0, Quality Control in Environmental Sampling

(4) Plant Abnormalities and Emergency Procedures

- 502.1, Loss of Offsite Power, revision 5
- 502.4, Loss of the Reactor Protection System Power, revision 2

- 502.6, Loss of Offsite Power-Failure of Diesel Generators, revision 2
- 505.1, Recirculation Flow Increase, revision 4
- 506.1, Rod Drop, revision 5
- 506.3, Abnormal Control Rod Motion, revision 5
- 511.1, Feedwater Pump Failure, revision 2
- 517, Significant Increase in Off-Gas Release Rate, revision 7
- 526.2, Fire in the Control Room, revision 2
- 535, Inadvertent Reactor Criticality, revision 1

(5) Surveillance Procedures

- 607.3.002, Containment Spray System Automatic Actuation Test, revision 5
- 619.3.006, Rx Triple Low Water Level Test and Calibration, revision 5

(6) Maintenance Procedures

- 701.1.002, Reactor Vessel Steam Dryer Separator Removal and Replacement, revision 1
- 701.1.003, Reactor Vessel Insulation Removal and Replacement, revision 1
- 702.1.005, Reactor Safety Valve Installation, revision 5
- 712.1.002, Liquid Poison System Explosive Valve Maintenance, revision 0

(7) Radiation Protection Procedures

- 901.7, revision 0, Time Schedule for Radiation Protection Activity or Function
- 902.5, revision 13, Preparation for an Initial Drywell Entry
- 902.6, revision 9, General Drywell Clearance
- 902.7, revision 1, Drywell Occupancy and Evacuation During Fuel Handling Operation

- 902.8, revision 0, Drywell Fuel Handling Radiation Monitoring Testing
- 903.6, revision 14, Personnel Regulations
- 903.9, revision 1, Daily Exposure and Access Control Card
- 904.9, revision 0, Respiratory Usage Data Card
- 906.6, revision 3, Dosimetry Issue
- 906.12, revision 3, Personnel Termination
- 906.13, revision 0, Lost Dosimetry
- 906.15, revision 1, Personnel Files
- 906.17, revision 1, Spike Testing and Leak Testing Self-Reading Dosimeters
- 906.20, revision 0, Calibration of 9100 TLD Reader
- 907.11, revision 4, Air Sample Using a Low Volume Sampler
- 907.13, revision 0, Air Sample Using a High Volume Air Sampler
- 908.1, revision 2, Portable Radiation Survey Instrument Calibration
- 908.2, revision 1, Multiple Source Gamma Calibrator
- 908.5, revision 4, Calibration of Teletector Model 6112
- 908.8, revision 1, Calibration of PIC-6A
- 908.10, revision 8, Calibration of PNR-4 Neutron REM Counter
- 908.12, revision 1, Calibration of E530 Type Instrument
- 908.20, revision 0, Use of Condenser R-Meter
- 910.3, revision 2, End Window GM Counting System-Efficiency and Operational Check Determination

- 910.6, revision 1, Internal Proportional Counting System Efficiency, Operational Check Value Determination, and Operational Check
- 910.10, revision 1, High Volume Air Sample Filter Preparation for Counting
- 910,11, revision 3, Radioactive Analysis Air Sample
- 910.12, revision 1, Count Room Sample Preparation and Disposal
- 910.18, revision 1, Background Count, Sample Count, Multichannel Analyzer
- 910.36, revision 0, Personnel Allowable Occupancy Time Determination
- 911.1, revision 0, Radioactive Waste Material Storage
- 912.1, revision 0, Shipment of Radioactive Material
- 912.2, revision 0, Receipt of Radioactive Material
- 913.1, revision 0, Vendor Health Physics Control Station General Responsibilities
- 914.1, revision 1, Health Physics Forms
- 914.3, revision 9, Personnel Contamination
- 914.4, revision 9, Use of Protective Clothing and Equipment
- 915.1, revision 1, Access Control to Restricted Areas
- 915.2, revision 0, Radiation Surveys
- 915.3, revision 0, Airborne Radioactive Analyses
- 915.4, revision 0, Contamination Control
- 915.5, revision 2, Respiratory Protection
- 915.6, revision 0, Training in Radiation Protection
- 915.7, revision 0, Personnel Monitoring
- 915.8, revision 0, Bioassay Program

- 915.9, revision 0, Implementation of the ALARA Program
- 915.10, revision 0, Investigation of Radiation Incidents

(8) Letter, D. A. Ross to E. J. Brunner, October 11, 1979, Response to IE Report 219/79-11

(9) Administrative Procedure, 107, Procedure Control, revision 11

(10) ANSI N18.7-1972, Administrative Controls for Nuclear Power Plants.

(11) Fire Protection Surveillance Procedures

- 645.4.005, revision 4, April 9, 1979, Fire Detection Channel Functional and Alarm Circuitry Test
- 645.4.001, revision 5, May 31, 1979, Fire Pump Operability Test
- 645.4.004, revision 2, September 27, 1978, Fire Suppression Water System Valve Lineup Verification
- 645.1.007, revision 0, October 17, 1978, Fire Protection System Flush
- 645.1.009, revision 0, March 7, 1979, Cycling of Spray and/or Sprinkler System Valves
- 645.4.010, revision 0, October 1, 1979, Fire Suppression Multimatic Valve Functional Test
- 645.1.003, revision 3, October 13, 1978, Fire Hose Station, Hose House and Fire Hydrant Inspection
- 645.1.008, revision 0, February 13, 1979, Fire Hose Re-Rack and Blockage Check
- 645.1.006, revision 0, August 30, 1978, Fire Hose Hydrostatic Testing

(12) FDSAR, Section 12, Conduct of Operations

(13) Technical Specifications, 4.0, 6.8, and 6.11

(14) Technical Specifications, Appendix B

b. Findings

(1) Items of Noncompliance

(a) An item of noncompliance involving failure to establish and implement calibration procedures for certain Health Physics equipment was discussed in paragraph 13.b.(1).

(b) An item of noncompliance involving failure to establish a control of equipment procedure that provided for independent verification of placement, removal of tags, jumpers, etc. was discussed in paragraph 3.b.(1).

(3) Unresolved Items

(a) An unresolved item involving radiochemistry quality control procedures was discussed in paragraph 14.b.(3)(b).

(b) An unresolved item involving the adequacy of the conduct of Operations Administrative Procedure, 106 was discussed in paragraph 3.b.(3)(a).

(c) An unresolved item involving the adequacy of the administrative procedures for the control of bypasses and jumpers was discussed in paragraph 3.b.(3)(b).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management control which may not have specific regulatory requirements but will be used as a basis for subsequent performance evaluations.

(1) Considerable time and effort in 1979 had been devoted to improvement of the health physics procedures. The 915 series procedures were established during this period. The majority of the 915 series procedures had the format, sufficient details, and step-by-step guidance to be a definite asset to the HP technician. (S)

(2) Most of the 900-914 series procedures were fragmented and in many cases contained general policy statements. Specifically, the inspector had concerns with procedures related to the personnel monitoring program, personnel access control, calibration - QA program, and radioactive waste shipments. (W)

(3) No particular problems were noted regarding the radiochemistry sampling, analysis, and quality control procedures. (S)

(4) Procedure 201.1 utilized a "Pre-Critical Status Checkoff" to verify that systems and/or equipment were in a condition to support plant startup. (S)

(5) Procedures 201.2 and 201.3 provided instructions for taking the reactor from a cold critical condition to rated power. These procedures contained numerable steps and referenced other procedures. No sign-off checklists were utilized to document completion of individual steps. (W)

(6) Procedure 201.3, Step 3.14, stated: "The steam temperature at each turbine reheat admission shall not exceed rated throttle temperature." Rated throttle temperature was not specified. (I)

(7) Procedure 205 was the controlling document for normal reactor refueling operations. This procedure contained numerable steps and referenced other procedures. No sign-off checklist was provided. (W)

(8) Procedure 205.8, Step 4.4, stated: "The control room operators shall closely monitor the SRM's during all core alterations." Guidance had not been provided as to what would be an acceptable normal change in count rate. (W)

(9) Procedure 502.1, Step 4.0, Immediate Operator Actions, did not contain a step to verify main steam isolation. (W)

(10) Procedure 502.6, Step 4.0, Immediate Operator Actions, did not contain steps to verify Reactor Isolation and closure of Electromatic Relief Valves. (W)

(11) Procedure 517, Step 2.0, Indications to the Operator, did not specify alarm setpoints. (W)

(12) Procedure 526.2, Step 5.2, stated that if evacuation of the control room was necessary, monitoring or verifying several system parameters for equipment operability was required. The procedure did not specify parameter values or what to do if normal values were exceeded. A shutdown panel outside the control room was not provided at the Oyster Creek facility. (W)

(13) Procedure 535, Step 4.1, Inadvertent Criticality During Refueling Operations, required corrective action during withdrawal of a control rod or insertion of a fuel

assembly when the count rate on any SRM increased to greater than 1000 cps. Depending on the base counts, inadvertent criticality could occur considerably below 1000 cps. Additional guidance based on increase (multiplication) in SRM count rate was not provided. (W)

(14) In general, references made to Technical Specifications were not specific. If an entire procedure was to be followed, then a general reference to the procedure would suffice; however, if only a section of a referenced procedure, document, etc., was to be followed, the reference was not specific in identifying that section. (I)

(15) A management representative stated that they planned to review Plant Abnormalities and Emergency Procedures with the intent of separating emergency and abnormal procedures. The plan was to provide a smaller number of emergency procedures that could be used to establish a stable or controlled condition during an emergency and then reference applicable abnormal and/or plant operating procedures for additional information. (I)

(16) The required logging of information on the data sheets for the 700-series maintenance procedures did not correlate with the specific step by step instructions in the procedures.

- Procedure 702.1.005, section 6.14.4 required certain torque limits on the nuts holding the "ramshead" in place to prevent the possibility of a safety valve from breaking off the manifold. The final torque setting was not required to be logged on the data sheet.
- Procedure 702.1.005, section 6.11.6 required the recording of "as left" feeler check data between the flange faces. The data did not specify acceptance criteria.
- Procedure 712.1.002, sections 6.10, 6.14, and 6.15 specified specific torque requirements. Acknowledgement that these requirements had been met was not on the data sheet. (W)

(17) The Region I office conducted an inspection at Oyster Creek relating to IE Bulletin 79-08. As a result of the Regional Effort (219/79-11), the licensee had committed to update their system valve lists, instrument valve lists, and to review the applicable 600-series (operations) procedures or ISI procedures for the following systems:

- Standby Liquid Control
- Isolation Condenser

- Reactor Protection System RV's
- Control Rod Drive Hydraulic System
- Core Spray and ADS
- Containment Spray and EWS

The licensee's commitment, reference 16.1.(8) indicated this work would be completed by December 31, 1979. (I)

(18) The Radiological Emergency Plan and associated implementing procedures were reviewed. It was noted that certain parts of the plan did not satisfy NRC Regulatory Guide 1.101, Emergency Planning for Nuclear Power Plants. In addition, the inspector had concerns regarding several implementing procedures. However, specific comments regarding the licensee's emergency planning program were not appropriate in view of NRR's recently established Emergency Planning Team Review concept. A licensee representative stated that their plan was being revised and scheduled to be submitted to NRR in December, 1979 for comments regarding Regulatory Guide 1.101 and NUREG-0578. The Emergency Planning Team Review was scheduled to be completed in early 1980. (I)

(19) Fire Protection surveillance procedures did not contain a specific technical specification reference. The procedures did not require the notation of a time when a defect was noted in the fire protection system. Most of the Fire Protection Technical Specifications required a posted fire watch within a specified time after the defect was noted. Most of the procedures did not reference specific schematics. Many of the procedures were performed more frequently than required by the Technical Specification, (TS). The TS frequency requirement was not always stated in the procedure. (I)

d. Conclusions

Problems with the 600-series procedures were brought to the licensee's attention by the Region I inspector (reference 16.1.(14)) and the licensee appeared to be in the process of correcting these problems.

The 700-series maintenance procedures primarily addressed the step-by-step assembly and disassembly of equipment and/or systems, and did not address system or equipment line-ups. Valve line-ups, breaker tagging, and switch tagging were referenced in the procedure prerequisites. The licensee should review these procedures for adequate data recording and acceptance criteria.

The format and content of the 900-914 series HP procedures needed to be revised.

An inoffice examination was conducted on a sample of the emergency and operating procedures. The procedures reviewed appeared to meet the regulatory requirements. The observations were offered to the licensee as comments for technical consideration to strengthen the specified procedures. The licensee had identified the need to rewrite the emergency and abnormal procedures; however, goals had not been established to accomplish this important function. Some of the procedures did not allow for the use of check lists to enable documentation of the activities.

The management controls with regard to the licensee's procedures was average.

17. Physical Protection

Information in this section is 2.790(d) related and is exempt from public disclosure. This section is included as Appendix A to this report.

18. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance or deviations. The unresolved items identified in this inspection are listed below.

Number	Subject	Paragraph
219/79-18-02	Operator authority to shutdown reactor	3.b.(3)(a)
219/79-18-03	Control of mechanical jumpers or bypasses	3.b.(3)(b)
219/79-18-04	Surveillance test acceptance criteria	3.b.(3)(c)
219/79-18-09	Fire stop inspections	4.b.(3)(a)
219/79-18-10	Breathing apparatus	4.b.(3)(b)
219/79-18-11	Fire protection area locked valves	4.b.(3)(c)
219/79-18-12	Fire protection system installation	4.b.(3)(d)
219/79-18-15	Field changes to modifications	5.b.(3)
219/79-18-18	Requalification program examinations	7.b.(3)

219/79-18-19	ISI audits	8.b.(3)
219/79-18-20	ISRG review timeliness	9.b.(3)
219/79-18-21	Maintenance program	10.b.(3)(a)
219/79-18-22	Preventative maintenance program	10.b.(3)(b)
219/79-18-23	Control of job orders	10.b.(3)(c)
219/79-18-27	Audit of Contractor Classification List	12.b.(3)(a)
219/79-18-28	Control of shelf life items	12.b.(3)(b)
219/79-18-32	New Radioactive Waste Facility	14.b.(3)(a)
219/79-18-33	Testing of radiochemistry counting equipment	14.b.(3)(b)
219/79-18-35	Security	17.b.(3)

19. Forked River Project

Discussions with licensee management indicated that no work was being accomplished regarding the Forked River Facility. The Vice President, Generation stated that the project had been delayed indefinately.

Should the licensee sometime in the future decide to continue construction of the Forked River Facility, management interface regarding construction and operation, would be reviewed at the time of licensee permit submittals and issuance.

20. Management Meetings

Exit Meetings were held at the site on October 19 and November 2, 1979, and at the corporate offices on October 5 and November 8, 1979 with licensee management (denoted in paragraph 1). The lead inspector summarized how the inspection findings would be handled. The inspectors then discussed the enforcement findings of the inspection which are detailed in section b. (Findings) for each of paragraphs 3 through 17. The Vice President, Generation stated that many of the inspection findings had been previously identified and plans for program improvements were in progress.

Attachment: Appendix A
(Part 2.790(d) Information)

APPENDIX 2

STAFF INTERVIEW

THURSDAY, APRIL 10, 1980

HOUSE OF REPRESENTATIVES,
ENVIRONMENT, ENERGY
AND NATURAL RESOURCES SUBCOMMITTEE
OF THE COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C.

The parties to the interview met, pursuant to notice, at 10:10 a.m., in Room 2247, Rayburn House Office Building.

Staff Members present: John R. Galloway, Staff Director, and Barry M. Hager, Senior Counsel.

Others present: Wayne Shafer, James Gagliardo, and Dorwin Hunter.

Mr. HAGER. Gentlemen, we appreciate your being here this morning. You have met John Galloway and myself. I think the introductions have been made. Minority Counsel was invited to be here this morning as well. However, she could not make it for her scheduling reasons. We regret her absence, but will proceed.

I think the first thing is to ask you a few questions about the chronology of your coming up with this report. As you know, we are interested in the report that the team headed by Mr. Shafer made, after an inspection last fall, at the Oyster Creek nuclear operating facility run by Jersey Central Power & Light Company.

A number of conclusions were contained in that report which were submitted to the NRC, and we basically need to run through now the chronology of your doing that report.

Could I ask you, Mr. Shafer, to give us a brief recital of how it came to pass that you did the Oyster Creek inspection.

Mr. SHAFER. I received my directions from Mr. Kermit Whitt, my Branch Chief, to prepare for an investigation at the Oyster Creek facility. The word investigate was used at that time. However, when he sent a copy of the memo from the Commissioners identifying what the Commissioners wanted us to look at, it became very apparent that we could fit the performance appraisal management and inspection program into this inspection, and the extra work that was required was added on in a program that I had planned. I had identified what we were going to do, who was going to do it, and when we hoped to have it done.

I subsequently sent this enclosure back to my management for approval, and, as I understand, it went to the Commissioners. I say that because we received a letter from the Commissioners stating that they had accepted the proposal and had encouraged us to proceed.

The team started their work, I believe, October 1, at the site. We spent the first week—very briefly we held what we call a mini-exit at the end of that week with the licensee people——

Mr. HAGER. Perhaps I should interrupt. When you said exit, you mean a discussion with the licensee management folks, apprising them of what you had discovered to that point in the inspection?

Mr. SHAFER. Our policy was to keep them informed of what our findings are. The first week we spent at the corporate office. I apologize for the memory lapse. Again, we did the same thing, made our findings, presented them to management, and then went to the site for one week. The first week at the corporate, a week in our own office, then a week to the site, and we continued that until, I believe, it was November 8, at which time we concluded our inspection and held what we call a major exit at the corporate office.

Mr. HAGER. Again, that was a discussion with a number of the corporate officials of what you found at that time.

Mr. SHAFER. That is correct, and the site manager at that time.

We then proceeded to our own offices, and each individual was instructed to prepare a report on the areas that he had responsibility for——

Mr. HAGER. Let me interrupt there. When you say each individual, you are referring to the five members of your team, or six?

Mr. SHAFER. Six, including myself.

Mr. HAGER. Their names, I think, are reflected on the report itself.

Mr. Shafer. That is correct. We spent two weeks preparing our report. The report consisted of items of noncompliance, unresolved items, and deviations. The second phase of the report covered what we call observations, and the last phase was identified as our conclusions based on what that inspector had seen at that plant or with that program.

Mr. Hager. Again, in this inspection, as I understand it, you looked at 15 functional areas of the plant's operations.

Mr. Shafer. That is correct.

Mr. Hager. When you say each individual member of the team was responsible for matters in his area, that is each member of the team had certain functional areas that he was primarily responsible for inspecting, and he reported on the conclusions of his functional areas?

Mr. Shafer. That is correct.

At the conclusion of our work of getting the report in draft, we all met in Region 4, again going over the report, looking for any inconsistencies that we might have or differences of opinion. At no time were the conclusions that were drawn by each individual changed by the team. Each of us presented our conclusions, and the team felt that those were valid conclusions.

The report then went into final and was sent to headquarters, to Mr. Gagliardo, and he carried it from there.

Mr. Hager. Before Mr. Gagliardo describes what has happened since the completion of your report, it might be helpful if you gave us a brief description of the meaning of the different terms: noncompliance, deviation, unresolved items, and observations.

Mr. Shafer. Okay.

Mr. Hager. It doesn't have to be too elaborate, just something that gives us a feel.

Mr. Shafer. Noncompliance is generally identified as a failure to follow a required technical specification requirement, or regulatory requirements.

Mr. Hager. Imposed by the NRC?

Mr. Shafer. That is correct. That is broken into three categories: violation, infraction, or deficiency, the deficiency being the lesser. The unresolved items are simply items that have the potential for noncompliance, but there is not enough information, or there is other information that indicates that action is being taken in that area and that action is always subject to review at a future inspection.

Mr. Hager. So, in fact, a particular unresolved item might be a deficiency or another item of noncompliance with NRC regulations, but by categorizing it as an unresolved item, you are merely saying that you are not certain whether or not it reaches the level of a noncompliance because there are facts you don't know yet, or because some action is being taken which might remedy it and prevent it from being noncompliance?

Mr. Shafer. That is correct.

Mr. Hager. With respect to the observations you made, how would you characterize those?

Mr. Shafer. The observations are based on the work that the Performance Appraisal Branch has done. These observations, as we identified in the report, may not be regulatory requirements, but we do use those observations to assess the management controls for that organization. The observations could be conceivably a regulatory requirement. It depends much upon the plants commitments.

If the observation was a strength as we identify in our report, it might be indeed a regulatory requirement that they have met. And we would have identified it as such, as a strength. But you might go to another facility, and they would not have that regulatory requirement. This would then become just an additional appraisal criteria. We still look to see if they do it or what they do if they don't do that particular thing, and we comment on that in that respect, just exactly what the licensee is doing in that area.

So the observations are our feelings, to enable us to sit down a year from now and assess this licensee with the rest of the licensees.

Mr. Hager. So, Mr. Gagliardo, if you could help us with the chronology of what has happened since you folks completed the report.

Mr. Gagliardo. Let me go back a step to where I entered into the picture. At the time the Performance Appraisal Branch was assigned to do the Oyster Creek inspection, Kermit Whitt was the Branch Chief, and I was an Inspection Specialist in the branch, working on other matters. Kermit left the Commission on the 1st of October, and Ed Blackwood, who was on the team, working out at our headquarters, was assigned as the Acting Branch Chief at that time.

Ed was subsequently selected for a promotion in November and moved into another position out of PAT. I was then tagged as the Acting Branch Chief of the Performance Appraisal Branch in late November—November 28, I think is the date.

So when I came into this, I was aware of what was going on, with the inspection effort, although I had had very little involvement in the planning for it, and was unaware of what they were doing or their findings.

November 28, when I took over as the Branch Chief, was about the time that the team had completed their individual reports of their functional areas, and we met in Region 4 in Dallas, and reviewed in detail that report, and I got involved in that because I knew that it was going to be mine to carry on from there on.

We had made a commitment to the Commission that we would have the report completed by, I believe, the 21st of December. And so, after that meeting in Dallas, we then proceeded to put together the report in final form, and we went through it again sometime in mid-December with the team all in Washington, and re-reviewed the report, and I think we signed the report off on something like the 20th of December, sent it down to Region 1 in King of Prussia for their review and issuance, which is the policy of PAT.

Mr. HAGER. Since the Oyster Creek plant is in Region 1.

Mr. GAGLIARDO. That is correct; normally under Region 1's control. This is the normal mode we operate under. We prepare the inspection report in final form, sign it off, send it to the region, and the region then is asked to review it and issue the report to the licensee, because the regions are really the principal line of communication between NRC and the licensee for inspection and enforcement matters.

So the report went to them somewhere around that time, and because of the Christmas holidays, I don't believe that they finished their review of it until sometime around January the 4th, at which time it was issued.

During that period, I also was working on preparing the letter that would be transmitted to the Commission with the final report, the letter that would be signed by Mr. Stello, our Director of IE.

So at the time, the report was finally reviewed and ready for issuance by Region 1, we had Mr. Stello's letter prepared and had gone through all the reviews and were ready to transmit it to the Commission, and it went to the Commission—was it January 4 that it went to the Commission?

Mr. SHAFER. Yes.

Mr. GAGLIARDO. I think it was January 4 it was transmitted to the Commission. Now, in the presentation of the report and the letter that Mr. Stello signed which summarized the findings and what action needed to be taken, Mr. Stello asked us to do an assessment of the implications of the effectiveness of our inspection program; in other words, based on the findings of this inspection report, or this inspection effort, does it indicate that there are NRC program weaknesses that would not have gotten the regional inspector into those areas; in other words, should the NRC program have identified these problems.

Mr. HAGER. When you say should "the program," you are referring to the ordinary day-to-day inspection program which is administered by the region for the licensees in its region, including Oyster Creek?

Mr. GAGLIARDO. That is correct. An inspection program that each of the regional offices implement on the facilities they have in their region.

In addition to an assessment of the effectiveness of the inspection program, we were also asked to assess the implementation of the program by the Region 1 office. So as soon as the report and the letter from Mr. Stello had been issued to the licensee, we set out to look at what are the implications with regard to the effectiveness of the program; and what had the region done.

To do this, we were looking at concentrating on the seven areas in the inspection report in which we had classified the licensee's management controls as being poor, looked at the findings, the major findings——

Mr. HAGER. Let me interrupt. As I recall, of the 15 areas, there were 9 areas, I believe, where there were findings that management controls were poor?

Mr. GAGLIARDO. I was thinking it was seven.

Mr. HAGER. I stand corrected.

Mr. GAGLIARDO. I might be incorrect, but I believe it was seven. So what we did was to look at the findings in those seven areas to see if these types of problems should have been found as a result of implementing the NRC inspection program. And we found in most cases that the inspection program was such that most of these findings and these problem areas should have been identified by full implementation of the inspection program.

Mr. HAGER. You found there were not inadequacies in the inspection program?

Mr. GAGLIARDO. No, there were—I think we had three specific examples of which there were inadequacies in the inspection program, but that did not cover the majority of the problems that we had. We found, by and large, most of the problems that were identified in the inspection were such that if the program, the existing program, had been fully implemented, the inspector should have been into that area and hopefully found those problems.

So having that information, we then proceeded to find out what had the region done as far as the implementation of those program elements which we call modules or procedures for those areas, and Wayne was involved in doing that. In reviewing the records of the region's inspection efforts for that licensee for—I think you went back two years, was it, or three?

Mr. SHAFER. I went back to 1977, 1978, and 1979.

Mr. GAGLIARDO. To look at the inspection procedures and if they had been implemented by the region. In some cases we found that because of the—I guess the constraints on manpower with the TMI thing—

Mr. HAGER. That is the Three Mile Island accident?

Mr. GAGLIARDO. The Three Mile Island incident, that some of these modules had not been implemented by the region, but Wayne also found that there were a number of modules that should have identified these problems which had been implemented by the region, so he then proceeded to look at the details of the inspection report that had been written by the Region 1 people to try and determine the depth to which they had gone into that area, and to get some insight as to why these problems had not been identified.

Having completed this effort, we then wrote an assessment report which was transmitted to our manager, Harry Thornburg, who is the Director of Reactor Construction, Inspection Division, and Mr. Thornburg transmitted that report to Vic Stello, the Director of IE, and Mr. Stello then sent a memo down to the Region 1 people, and sent them a copy of this assessment report and asked them to respond to that by the end of this week, I believe.

Mr. HAGER. As I understand it, Mr. Shafer, Mr. Thornburg has promised to send us a copy of your assessment of the Region 1 performance and his cover letter on that.

Mr. SHAFER. That is correct.

Mr. HAGER. We will be getting that shortly.

Also, as I understand it, based on all of this, you, Mr. Gagliardo, and Mr. Shafer, have met with the Region 1 people to discuss your findings.

Mr. GAGLIARDO. That is correct. We met with them Tuesday of this week.

Mr. HAGER. That would be the 8th.

Mr. GAGLIARDO. Yes, we met with Mr. Boyce Grier, the Director of Region 1; Eldon Brunner, who is the Branch Chief of the Reactor Operations and Nuclear Support Branch; Mr. Gary Schnider, who was the Assistant to the Director; and Mr. Crocker who was the Acting Branch Chief for the Fuel Facilities and Materials Inspection Branch, which is the health physics group.

Mr. HAGER. And, as I also understand it, there will be a further meeting between the Region 1 officials and the inspection and enforcement officials here in the headquarters in Washington?

Mr. GAGLIARDO. That is correct. Mr. Grier is in headquarters today, meeting with Mr. Stello. I don't know if he brought along any of his staff with him. I saw him in the hall as we were leaving, but I did not see any of the other Region 1 people.

Mr. HAGER. Do you know whether there will be a formal report?

Mr. GAGLIARDO. Region 1 is required to submit a response to Mr. Stello. I don't know whether there will be a verbal report to the Commission or a formal report. I don't believe any decision has been made on that yet.

Mr. HAGER. So far, we have explored what has happened with respect to your assessment of Region 1's performance, based on the findings at the Oyster Creek facility.

During this same time period, there also has been some response, I take it, from the utility itself, that is, from Jersey Central Power & Light, to your findings. Let's go back and retrace that. There was the letter sent out by Region 1, accompanying your report to Jersey Central?

Mr. GAGLIARDO. The letter that transmitted the report to the licensee was sent out, I believe, January 4th. That transmitted to the licensee just the inspection report. It did not transmit the notice of violation which identifies all of the items of noncompliance. In that transmittal letter it indicated that management was reviewing this to determine any additional enforcement action.

Region 1 reviewed this and decided, or were recommending, that an order be issued to the licensee with regard to the correction of the items of noncompliance, and action to be taken to upgrade the management controls in those seven areas that we identified as being poor.

This was transmitted to our headquarters for issuance to the licensee. That was reviewed by headquarters management and the final outcome of that review was that they would not issue an order to the licensee, but that a letter would be issued under the director's signature which transmitted the notice of violation and would request the licensee to address not only the corrective action to be taken for all of the items of noncompliance—which we typically do in all inspection reports, not only in PAT, but the regional ones—too, but, in addition, to address what action he was going to take to upgrade the performance in those seven areas we classified as poor.

Mr. Hager. Could I ask you what your understanding is of the consideration behind not issuing an order but sending a letter instead?

Mr. Gagliardo. The letter that was sent out, although it is not officially classed as an order, essentially is doing the same thing as the order. The order was telling the licensee to take corrective action, to upgrade the program in those areas by such-and-such a date. What the order could do the letter was doing the same thing; to take the corrective action to upgrade those areas; but the letter also told the licensee that once the reply had been received, that the Region 1 director would set up a meeting with the licensee and NRC management to discuss the licensee's commitments to upgrade the program and to correct these problems, and that the licensee was not to resume power operations until that meeting had taken place.

Mr. Hager. As it happens, the Oyster Creek plant is down for refueling now.

Mr. Gagliardo. Yes, it is still down.

Mr. Hager. Jersey Central has now responded to your report; is that correct?

Mr. Gagliardo. That is correct. We have received the response from Jersey Central to that inspection report and to the areas that were identified as poor. This was also a subject of the discussions that we had with Region 1 management on the 8th of this month.

When we received the response, we made copies of it and gave it to all of the PAT people, Performance Appraisal Branch members, who had been involved in the inspection. We even sent a copy to the one member who was no longer in the Performance Appraisal Branch but was promoted to a section chief job at TMI; asked them to review it and provide comments on the response, and we then assembled that and went to Region 1 to discuss that with Region 1 management to assure that we were all in agreement before we went to the licensee, or got together with the licensee, to discuss——

Mr. Hager. Your purpose in doing all of that was that there will be a meeting between Region 1 and the licensee, where the adequacy of the planned actions which Jersey Central has suggested it will take will be discussed. And Region 1 will finally have to make a decision as to whether or not it will accept Jersey Central's programs as adequate to deal with the problems that the Performance Appraisal Branch team discovered?

Mr. Gagliardo. That is correct.

Mr. Hager. That meeting will take place when?

Mr. Gagliardo. A date for that meeting has not been established yet. I understood that they were tentatively talking about the 16th of this month, but I understand now that that date is no longer going to be that date, that apparently the licensee's shutdown schedule has been delayed to later in the month, and I would imagine the meeting will be also delayed until sometime then. As of this date, I don't know when that meeting will be.

Mr. Galloway. Have the comments of the PAT team on the Jersey Central's response been put in writing?

Mr. Gagliardo. We have some of them. For example, I have here just a handwritten memo from one of the inspectors who sent me his comments. Most of the other inspectors provided their comments to either myself or to Wayne verbally, and Wayne took those comments and made a note of all the comments and the page involved. When we went down to the Region 1, we were working from that.

We do plan to write a memo to Region 1 saying this is our understanding and our comments on this report.

Mr. Hager. Based on Jersey Central response?

Mr. Gagliardo. Yes.

Mr. Hager. Do you plan to do that before the meeting that Region 1 will have?

Mr. Gagliardo. Yes.

Mr. Galloway. Would you provide us with a copy of that document when it is completed?

Mr. Shafer. Yes, I think it is very important that we understand that during this discussion some of our concerns went away; it was a misunderstanding or something that we didn't catch that was brought to our attention by Mr. Grier.

Mr. Hager. Did you by any chance identify those particular areas?

Mr. Gagliardo. Yes, I marked those up.

Mr. Shafer. You have the same thing.

Mr. Galloway. Do you have an extra copy for us?

Mr. Shafer. Yes.

Mr. Galloway. Was Mr. Grier working from a written document concerning Region 1's response to the Jersey Central?

Mr. Shafer. He was working right from the Jersey Central response, I believe, sir.

Mr. Galloway. But had Region 1 prepared a memo summarizing their reaction?

Mr. Gagliardo. Not that I saw.

Mr. Shafer. Not to my knowledge.

Mr. Gagliardo. I was far enough away from Mr. Grier; he was looking at the response, I believe. I was sitting next to Mr. Brunner, the Branch Chief, and he had a copy of the report where he had marked his comments in the margin. So I did not see any formal memo of their position.

Mr. Hager. Gentlemen, looking at your report, based on your inspection of the Oyster Creek facility, I believe it would be most sensible to go through the report functional-area-by-functional-area so that we can understand what your findings really are.

Now, Mr. Galloway and I both attempted to study your report carefully, but I think we need your guidance so we are sure we understand the implications of your findings.

Mr Shafer, can I ask you to walk us through essentially the functional areas? Perhaps very briefly you might just describe how you focus on these functional areas. Does this cover the waterfront of the operation of a nuclear facility, these 15 functional areas you have utilized here?

Mr. Shafer. We feel they are the most significant, keeping in mind, of course, with Oyster Creek we had added, I believe, four more detailed specific areas to look at. If you received a copy of the index to the report, the areas identified as paragraph No. 3, starting at page 8, through and including No. 17, were the specific areas, and each, as the title so states, were the specific areas that we looked at.

Section 1, of course, is used to identify the people that were contacted. Section 2 is hopefully a clear definition of what we are talking about when we discuss the scope and objectives part of our report and includes a paragraph identifying what we mean by our conclusions.

Eighteen, 19, and 20. Eighteen is a summary sheet of all the unresolved items within the report for quick reference. Nineteen addressed—our paragraph regarding the Forked River project we were asked to look at by the Commissioners. We found the Forked River project having no construction work being done, and none planned, and therefore concentrated the bulk of our effort on the Oyster Creek facility.

Mr. Hager. Tell us what that other is, quickly.

Mr. Shafer. A nuclear plant, right near the Toms River.

Mr. Hager. Also owned by Jersey Central?

Mr. Shafer. That is correct.

The last area is the summary of management meetings that were held by PAB with either the people at the site and/or the final one at the corporate office at Morristown, New Jersey.

Do you want to go into each and every specific area?

Mr. Hager. I think briefly we would like to touch on each one.

Let me say what we are concerned with here is getting a clearer sense of what your team views as your critical findings, so as we hit each area, I think my first question in each area would be simply, in your mind, what is the most important finding? Perhaps that is a little unfair to ask you to rank—order your findings, but I think you understand what we are getting at. We want to have a grasp of the many problems that you found; we want to have some sense of which ones strike you, with your experience as an inspector, as the ones that raised the most problems or implications about the quality of the utility management. That is a judgment obviously we are not qualified to make, so we are going to ask you to make that judgment for us to help us understand the report.

Let's look at the first one, the licensed activities function.

Mr. Shafer. That generally consists of a review of the licensed activities, and it centers around the activities of the operations department, primarily. What we are looking at there is the controls that have been established by management to properly operate the plant, as required by the regulations. We do an intense review of the licensee's identified program as identified in the final safety analysis report. We look at the conduct of operations, the day-to-day how to do the job that the operator at the plant is required to follow, and it includes from the time the individual walks in, assumes responsibility for the shift, reviews the logs properly, assures himself of the equipment that has been taken out of service and put in service. It normally identifies all of these responsibilities, and, of course, it is a commitment that the licensee has made to the NRC for the proper operation of the plant.

Mr. HAGER. Could you give us some sense of the number of people in the Operations Department, also as a proportion, perhaps, of the number of people on-site altogether, just a rough estimate, so we have some feel for that?

Mr. SHAFER. Gee, it would be very rough. I would have to guess we are talking 35 to 50 people in the operations, strictly operations area, depending on plant size.

Mr. HAGER. And compared with how many people on site in a regular operating facility such as Oyster Creek?

Mr. SHAFER. Oyster Creek, I believe, at the time, had close to 300 people.

Mr. GAGLIARDO. You might want to point out, too, that not only are we looking at the management of the day-to-day activities, the people who are doing the hands-on work and their immediate supervision; we also are looking at how those areas are managed by corporate individuals; in other words, what is the extent of management overview at the corporate level, how well informed is corporate management of what is going on, how often are they involved in reviewing the activities; what is their input, the line of communications to the operations people, and the line of communications or information flow back to them.

Mr. HAGER. That is a critical point. I hope as we walk through these specific functional areas, you will be careful to focus on that. I think it is a vital issue. So wherever there are findings on that point, I think we want to discuss those.

Mr. SHAFER. Okay.

Mr. HAGER. As we look at the Licensed Activities Section, obviously as you said before, you categorized it in terms of noncompliance, unresolved items and observations.

The nonconformance you have located there has to do with the lack of written procedures requiring verification of some of the tagging. Could you give us some feel for the significance of verifying tagging?

Mr. SHAFER. Yes, sir, I think I can, and I can reference you quickly to the Three Mile Island incident where safety equipment was improperly aligned and not serviceable when it was needed. The significance, and this is a touchy subject with us, we look for independent verification by the people in the field to assure themselves that this equipment will be capable of being used. That is the bottom line.

Mr. HAGER. And by verification of tagging, explain what that is.

Mr. SHAFER. Tagging is normally used for one taking equipment out of service. This is a safety feature that is used at the utility to remind an individual if he goes up to a breaker, he is not to touch that breaker because it is properly tagged and is out of service. It has generated into an area now where we talk about tagging and jumpering equipment, jumpering meaning taking a lead and either bypassing the function of that particular piece of equipment by jumpering it with a piece of wire——

Mr. HAGER. As we might jumper batteries in an automobile?

Mr. SHAFER. That is correct. The significance of jumpering and taking equipment out of service, as I stated before, is important primarily because the review requires that they make sure that they have the proper equipment available at all times. The tagging method is used, and the logging of this equipment is used, to assure that the control room is fully aware of those jumpers that are put in, and the requirement for independent verification is, number one, were the right terminals used to make the jumper? Is it in properly? And obviously——

Mr. HAGER. And will it work?

Mr. SHAFER. Will it work? And then turning around when removing the jumper, it is very strictly enforced that they take that jumper out of service when it is no longer needed and are fully aware of the fact that equipment is back in an operable condition.

Mr. HAGER. And your findings here relate to the fact that the utility's, the licensee's, written procedures didn't require adequate verification of that tagging action?

Mr. SHAFER. That is correct; matters required by ANSI-187, 1972.

Mr. GALLOWAY. On that point, I would like to ask, where you found the lack of independent verification, were you able, or did you go a step further, to show that there was a specific failure in that regard?

Mr. SHAFER. No, sir, we did not.

Mr. GAGLIARDO. Recognize, what we are trying to do in management appraisal inspection, we are looking at how the licensee is managing that program. The regional inspection efforts concentrate more on compliance. Is the licensee in compliance with regulatory requirements? And so you are looking historically, or right now; but we are interested in the management controls and are they adequate to ensure that they are going to continue to be in compliance with those requirements.

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So we don't get into the details of going back and looking to see if we can find examples of where they had failed to satisfy that requirement.

It is sufficient to see that there is definitely a weakness here, and it is not properly controlled.

Mr. GALLOWAY. Specifically you were not looking for items of noncompliance per se. You came across them almost incidental to your management review?

Mr. GAGLIARDO. That is correct. In our methodology we are not looking for items of noncompliance. If we find items of noncompliance, we will call them, because we are all experienced inspectors, and we will do it. But if we see a weak area, and we identify a weakness in the management controls, that, as experienced inspectors, we could say I know if I jump into this area and start researching it, I am going to find noncompliance, we don't do that. That is not our task.

Mr. GALLOWAY. Logically it follows that this report does not represent a cataloging of items of noncompliance at Oyster Creek.

Mr. GAGLIARDO. That is correct.

Mr. GALLOWAY. Presumably there are many more than would be noted here?

Mr. SHAFER. Could be.

Mr. GAGLIARDO. Could be. If this effort was extended in looking strictly at compliance and had the licensee complied with his requirements, it is very possible that you would have had more items of noncompliance.

Mr. HAGER. On the unresolved items in the licensed activity section, your team found that there was not explicit authority for the reactor operator to shut down the plant under certain circumstances without approval of the group shift supervisor.

Mr. SHAFER. I will explain it to you. Please understand what I am saying now; I was not involved in this particular area. Mr. Marvin Sinkule was the individual who made his report to us, to the team. Identifying this simply, in his discussion with the operating personnel, they were not aware of their responsibility to shut down the plant, that, in fact, they were following a procedure their management directed, if you will, which tells them how they are going to go about doing it. The regulations insist that the operator be fully aware, believe his instrumentation, and be ready to shut that plant down at a minute's notice. It does not allow him to wait for his shift supervisor to come in at whatever time he might desire to come walking into the control room. It imposes this requirement on the operator.

We find it a concern, in fact, that they did not have that—and I don't remember the exact words—that the individual, himself, was not aware of the fact he had that requirement.

Mr. GALLOWAY. Is there always a shift supervisor physically on-site?

Mr. SHAFER. That is correct; yes, sir.

Mr. GALLOWAY. There are no periods of lunch or dinner when there is not a shift supervisor on-site?

Mr. SHAFER. That is correct. That is required by the technical specification.

Mr. HAGER. As a practical matter, how far away could he be?

Mr. SHAFER. He could be on-site in many cases or in the building, but he doesn't necessarily have to be in the control room. The technical specification generally directs that a senior licensed individual will be on-site or in the control room. It depends on the licensee.

Mr. GALLOWAY. What are we looking at in terms of safety; that it would take in this case five or ten minutes at most for the shift supervisor to reach the control room?

Mr. SHAFER. Regarding the safety of the plant?

Mr. GALLOWAY. Yes. The procedure is that the operator could not unilaterally shut down, but he had to summon the shift supervisor who is always on-site.

Mr. SHAFER. I would have to know what the circumstances were and what the problem was. The fact that an operator is at the controls, continuously aware of what is going on with that facility, and if he becomes unsettled because of something happening, I have to trust that individual, because he is very knowledgeable about that plant. If he has to wait to get permission to shut the plant down, he must think to himself, I think I better shut this down. The significance of it, in many cases a shutdown might be in order because of some problem which he would not have—he doesn't have to go over there and slam the button down, if you will; he knows there might be a problem, such as in the technical specification, if a piece of equipment malfunctions, you have so many hours to get the plant down and obviously he does, many times a day, get a hold of his shift supervisor.

We are not directing ourselves at that. We are talking about a situation where something, and I can't—help me on that, if you would.

Mr. HUNTER. An example: you said five minutes; the key to that, if, in fact, he has a piece of equipment malfunctioning like it is pulling the control rods—that is an electronic function, it occurs in your automobile—but he, looking at the system, has a problem of a steam generator level control system malfunctioning; he doesn't have five minutes; he must make the decision within a very short period of time.

The shift supervisor may not be available. It says he is on-site. He might, in fact, be at the screen house; he might, in fact, be below the turbine, where he can't hear. The operator, first of all, picks up the phone and calls him. The law is written again that the operator is in charge of the controls and that he should make that decision.

Mr. GALLOWAY. Additionally, presumably we are not just talking about the amount of time it would take for the shift supervisor to enter the control room, but presumably a period of time required to brief him as to what had transpired.

Mr. HUNTER. Absolutely. And it is like in an emergency plan, if you have a problem, you want that man to react, basically the guy in the control room, it might be the site manager initially, if it is that kind of case, and he transfers it to the shift supervisor and then to the plant manager. In our program we look at what they do at that instant and, again, I can tell you if you blow a tire on a car, you are not going to drive it for five minutes, are you—and that will give you a feeling for what I am saying.

If a man recognizes he has a problem, he wants the plant shut down.

Mr. GALLOWAY. I understood you to say previously that the shift supervisor cannot always be contacted in an emergency——

Mr. HUNTER. Yes, sir, he should be able to be. But in the real world, again, if you want him contacted, you know, but there are cases where he might be indisposed; he might be in the restroom. Let's talk about the real world, not get tied up in a lot of things; he might be anywhere. In some plants on-site means he might be—I will give an example. I happened to have been associated with a power plant where the screen house was 1.7 miles down the road. He would hear the speaker, providing it got down there. In other words, electrically the speaker is there, but he might have to, first off, talk to the man on the phone, so his contact would initially be by an impersonal phone call, if you will, then drive back so many thousand yards, and, finally, get to the control room where he can look at the instrumentation that the operator has been looking at all the time.

We put a lot of importance in the operator, and that is why he is licensed.

Mr. HAGER. When you speak of blowing out a tire on a car, could you give us some specific hypothetical where the operator really has to make that shutdown?

Mr. HUNTER. A reactor coolant pump vibration alarm comes in, and it is getting increasing amplitude value; he might need to make the decision right away, rather than let the pump tripping because of some problem; he might need to make a decision and say, I will take the plant off. The rods are coming out, an electronic failure; that is an example. It so happens it just happened, so it is fresh on my mind that can happen.

Mr. HAGER. It just happened?

Mr. HUNTER. Well, it just happens routinely. I don't want to give an example. But electronic failures happen all the time. It is because of the complexities of the machinery. It is going to happen.

Mr. HAGER. If the decision were not made to shut down, if hypothetically the control room operator sits there——

Mr. HUNTER. If he sees what is happening, and doesn't take the action, if the protection system functions properly, okay, then the plant should be protected, okay. But, again, there may be—and I couldn't give an example—there might be a case, and I would always expect the operators to act before the reactor protection system; if it is a slow one, you don't wait for the protection if you know it is going bad, and you take it out. There might be an incident that requires operator action, and he could limit the transit, the amount of water that is blown out of a safety valve, the radioactive release to the containment—all kinds of things he could do. Steam-generator tube rupture, you can wait, but it requires operator action to limit the radioactivity that is transferred to the secondary system and possibly out to the environment. He can limit the impact by taking action.

Mr. HAGER. So there really are safety consequences to whether or not he can act rapidly?

Mr HUNTER. Yes, sir; certainly there are.

Mr. SHAFER. I think the record should show the conversation relates to a pressurized water reactor, when we were talking about the control rods. It is a general conversation as to why we feel that regulation is there.

Mr. HAGER. That is true. Most reactors in this country are pressurized water reactors. Is that right?

Mr. SHAFER. Oyster Creek is a boiling water reactor.

Mr. HAGER. I am aware why you brought that up. But his point is well taken.

Mr. GAGLIARDO. The majority are pressurized water.

Mr. HAGER. Yes.

Another observation still under the licensed activities section had to do with the high rate of personnel turnover, and your observations include remarks that there have been requests for more personnel on-site. Could you give us a little history of that? I take it there has been some expressed desire by the folks on-site to have more personnel? Is that a fair understanding?

Mr. SHAFER. It is my understanding that they have expressed this to Mr. Sinkule that they wanted to get more personnel on-site because of the manpower shortage problem and the additional requirements that have been imposed on them. I can't address their decision to do so. I have no background on that.

Mr. HAGER. I wanted to know the timeframe in which those requests occurred for more personnel. Is it your understanding that the desire goes back some time, or do you know that?

Mr. SHAFER. No, I don't. Which particular observation was that?

Mr. HAGER. I am referring to the observation at the top of page 12: "licensee management recognizes a need for additional personnel at the station and at corporate headquarters."

Mr. SHAFER. That relates primarily to the number of personnel on-site, not necessarily control room operators, if you will. We are talking about the engineering support organization, and this is part of the program that the licensee has recognized a need for more people out there to give the operations organization more support.

Mr. HAGER. But you don't know whether that recognition has occurred, let's say, since March a year ago, or prior to that?

Mr. SHAFER. I would be guessing. No, I don't.

Mr. GALLOWAY. Apparently management has agreed to hire over a hundred more people. So that is a major increase in personnel. How would you characterize what are the implications of their having been short 100 people for the previous period of time?

Mr. SHAFER. I can't speculate on what happened previously. That was the first time I went out to that plant. I would say as a result of the Three Mile, consideration was given for more manpower needs for the licensee. I recall that problem being made known to me. Many changes have been made as a result of Three Mile Island.

The specific number, I cannot tell you offhand. Our concern was this. They came up and said, yes, we are planning on doing this. Our concern was when are you going to do it.

You apparently have recognized that you have a need for these people. We would like to know when you plan on getting these people in. They had no clear-cut timetable set as to when they were going to do it. A judgment, again.

Management recognizes the problem. Management has started to take corrective action. But has the corrective action been completed in a timely manner?

Mr. HAGER. This will take us over to discussing a little bit of the utility's response to your report. Since we are on this point, let's ask now.

What is your understanding about whether or not they have established a firm timetable to deal with the hiring of these additional personnel?

Mr. SHAFER. They have made more firm commitments. Some of those commitments go to their timetables, whether it be hiring of personnel or having a program turned around and operating correctly.

We did discuss this with the regional personnel on Tuesday, with regards to the timeliness of getting these programs in shape. We sat down and looked at it, and said how long is it going to take to get this program in shape.

January 1981 didn't seem an acceptable length of time.

Mr. GALLOWAY. When you say here the licensee management had recognized the need for these additional persons, is it your understanding that the need was recognized post-Three Mile Island or could this need have been recognized for several years?

Mr. SHAFER. You would have to ask Mr. Finfrock that. I could not speculate on that.

Mr. HAGER. He is the Vice President of Jersey Central?

Mr. SHAFER. That is correct. Vice President, Power Generation.

Mr. HAGER. Before we get off that matter of the Jersey Central response to your report, I took your last remark to suggest that your view of some of the proposed actions by the utility would mean that there would be problems cited in your report that would be outstanding until January 1981?

Mr. SHAFER. The licensee's response indicates that there are still areas that they said they were going to have straightened out in a certain time period. We had discussed it and found that time period untimely.

Granted, if they cannot do it—it is not an arm-twisting contest. It is simply a case of all right, if you are going to be that far in the distance getting your program straighted out, what interim measures are you going to take to assure you have no impact on safety?

That might be the piece of material that we need. That outline date there——

Mr. Hager. As it now stands, you are concerned that those interim assurances that health and safety problems won't arise have not been adequately forthcoming from Jersey Central?

Mr. Shafer. It was not included in their response. Obviously this is a requirement—I am sure it will be part of the discussion in the meeting that will take place with the regional office.

Mr. Hager. All right. Let's go back to a discussion of your report itself.

Mr. Galloway. I was wondering if you could add anything to what was said on page 16 concerning an apparent morale problem in the operations area. It says various reasons were given as the probable cause. Page 16, number 27.

Mr. Shafer. Speaking for the inspector responsible for this area, I can simply tell you that when discussing the responsibility, the role, and in general how that individual feels about his work, we normally have to be very careful in that area to separate the wheat from the chaff, if you will, the complaints that we do get.

But when the same concern comes out from each individual that they have a concern, a morale problem, then we feel it is a worthy comment. This particular individual, one of the individuals I recall was a shift supervisor. I really cannot comment on the rest of that.

Mr. Hager. Can you give us the name of that shift supervisor?

Mr. Galloway. Let me interject at this point, before we provide a potential name.

In conducting these interviews, do you pledge anonymity to these people, in order to encourage them to speak candidly?

Mr. Shafer. Only if they ask. If they say they would rather not talk about it, we don't push it. We are not saying come on, tell us everything, all the dirty stuff you might know. It is not that case.

We present our case to them. We are looking at management. We want to understand your perception of what you think your management is doing. We are going to management, we are going to do the same thing.

Mr. Galloway. Were notes taken of these interviews?

Mr. Shafer. Field notes, yes, sir. Each individual does it their own particular way.

Mr. Galloway. Are field notes normally typed up when the inspector gets back to headquarters and put in a file?

Mr. Shafer. No, sir. Those notes are simple reminders to the individual who we talked to, what was said. Normally those field notes might be rewritten half a dozen times within that same day to, shall we say, separate the wheat from the chaff, to make sure we have our positive concerns.

Mr. Galloway. Before I interrupted, you had begun to tell us about an individual shift supervisor who apparently had——

Mr. Shafer. He felt there was a morale problem within the shift supervisor organization, a valid concern. This individual told me about it when I interviewed him in another area.

Apparently he told this inspector the same thing. The shift supervisor is first line supervisor, if you will, and a very important cog in the organization. No, I cannot give you his name. We identified the persons contacted by title only.

Mr. Hager. You might have his name in your records somewhere?

Mr. Shafer. No, sir, I wouldn't.

Mr. Galloway. But looking on that chart, that chart does indicate shift supervisor? There is an entry entitled that?

Mr. Shafer. Yes, it should.

Mr. Gagliardo. Probably it will indicate you looked at more than one shift supervisor.

Mr. Shafer. Group shift supervisor, three of them, on page 5, the third one down.

Mr. Hager. So it was one of those three individuals?

Mr. Shafer. That is correct.

Mr. Galloway. How many shift supervisors are there roughly?

Mr. Shafer. I believe there were five at that facility. They generally run five to six. If they run six shifts, they will have one crew off and training. I believe that is the case. It might have been done with five at the time. It depends on turnover and promotions and what have you.

Mr. Hager. Let me ask one other thing.

Another observation in the licensed activities section has to do with the number of corporate visits; that is, management visits on-site. Also, I think a related matter, the lack of a written system for individual personnel to be able to call safety problems to the attention of management.

I wonder if you would comment.

Mr. Shafer. What page is that?

Mr. Hager. Those observations are on page 18.

I wonder if you could give us the team's impression of the adequacy of the corporate visits.

Mr. Shafer. The first one then is corporate visits. What we try to do there, when we are talking to corporate personnel, we try to find out how many times they do get out to the site, and what they do when they go out there.

In many cases, I think almost every case that we have gone to a Performance Appraisal Branch inspection, we have found that upper management claim they do go out to the site. They don't document the fact that they do. They generally do not keep notes of what occurred at the time.

If we ask them, have you gone out to the site, do you go out, how frequently do you go out. You might ask, why do you do that. Obviously an individual at the corporate office has the primary responsibility for the plant. His awareness of the problems at the plant could indicate the number of times he goes out there. It could indicate how aware he is of what is going on.

Mr. Gagliardo. The other thing we look at, too, in the area of documentation is that you have a manager who is down visiting the site, and providing the overview that you hope that a manager is doing.

We also look to see if he is communicating, providing feedback, to the site staff on problems that he has found, or if he has no problems, at least to identify that he was there looking at such and such activities and had no problems.

Looking for that feedback mechanism, as I talked about before—lines of communications both ways—feedback of information to management, and management's feedback to the site personnel who are doing the day-to-day activities.

Mr. Hager. Given what you were looking for, how do you feel about what you found?

Mr. Shafer. Which one was it?

Mr. Hager. Still on the question of the adequacy of the corporate site visits and the adequacy of their feedback.

Mr. Shafer. I think we pointed out there that they had no formal written system to assure that employees at the site had a means of contacting these people.

Mr. Hager. With respect to safety problems.

Mr. Shafer. Again, the same thing. I think Jim answered part of your question by simply saying when we are looking for communications, we are looking for the corporate office management to go to the site and to be fully aware of what is going on and transmitting information, and the turnaround there, of course, is how well is management being made aware of what is going on by the site personnel.

To establish a method rather than just—and many times we find this an old standing rule—"my door is always open." Too many times we find that is not the case, or that the individual doesn't even know who he should go to.

I think one of the prime interests we have is supposing you do find a safety problem. Now here we are on the site interviewing a person. I say to this employee, supposing you do find a safety problem, and you go to your supervisor, and he gives you the old hee-haw—in other words, he rejects it. Now, what are you going to do.

In many cases the individual might say, "Well, I will go to my union steward." But the avenue wasn't there to assure them there would be no problem if he ever did that.

Mr. Hager. Problem in the sense of retaliation.

Mr. Shafer. That is correct.

Mr. Hager. I take it your expectation is, again, in the real world employees cannot always be sure if they bring out these problems up the line there wouldn't be consequences for them personally.

Mr. Shafer. I think that is true.

Mr. Hager. What you found here was inadequate guarantees that would not be a problem.

Mr. Shafer. Yes. Again, it is another little glitch in the management system.

Mr. Galloway. Could we look at the top paragraph on page 18, please.

Mr. Shafer. Yes.

Mr. Galloway. Now, what that paragraph tells us is that there has been no improvement in performance in terms of LER's and noncompliance for the past three years.

Mr. Shafer. This says past year, I believe, on page 18.

Mr. Hager. For noncompliance data.

Mr. Galloway. Now, was the trend steady, or had there been a deterioration? Can you tell us anything about the trending here?

Mr. Shafer. Well, it is a conclusion that an improvement in performance was not evident. I think we had a lot more concern it was going the other way.

Mr. Galloway. You don't know.

Mr. Shafer. No, I don't know. We generally query the licensee to identify if he is trending his problems in those areas. If it is a piece of equipment that is continuously breaking down, is someone following that.

If it is an operator error, is it the same operator making that error, or what is causing the number of operator errors. We look for that type of analysis by management at the site, to see if it is being done.

Mr. Hager. On that, did you find that kind of trending done?

Mr. Shafer. I think if you go into the corrective action system, you will find some comments in there.

Mr. Hager. You are referring now to paragraph 6?

Mr. Shafer. That is correct.

Mr. Hager. But you found very little of the kind of trending analysis you just described being done.

Mr. Shafer. I am addressing the areas I was looking at. The inspector who did this area, whether he found any or not——

Mr. Hager. That is Mr. Sinkule.

Mr. Shafer. He apparently did not state he had seen any trending.

Mr. Galloway. The next item is the fire prevention protection.

Mr. Hager. On that fire prevention—one question, if I might ask—can you give us some feel for this? How recurrent are fire problems in reactor situations? I attempt to look at unusual events reports and other documents, other publications, that indicate what goes on in reactors. I take it there is quite a lot of concern for fire.

Can you give us some feel for the types of problems that lead to fires, and how often it is really a problem to worry about in operating a reactor?

Mr. Gagliardo. Well, I think you can fall back on the Brown's Ferry incident of 1975, in which they had a fire which got out of control, caused major damage to the facility and seriously jeopardized the operation of that facility, in being able to get it under control and shut it down.

So, as a result of that effort, considerable emphasis was placed on looking at the fire protection and fire prevention at these facilities; in other words, looking at doing hazards analysis of the facilities, to look at fire hazards that existed, and then to take action to correct those hazards, to provide fire prevention equipment and installations to prevent or detect fires.

Then in the protection area, to establish adequate suppression systems to handle a fire when it occurred. So that our effort is looking at the management of those fire protection activities.

Since the Brown's Ferry fire there has been a considerable amount of upgrading that has been done at all facilities, to reduce the fire hazard, and to increase the detection and suppression systems that are installed there, and also to upgrade the administrative controls, to insure that you have better controls over combustibles, that you have much better control of ignition sources, welding and grinding, et cetera. So that we are looking at the management of that system.

There have not been a large number of fires at facilities. You will find as you look into the record probably most of the fires at facilities occur at construction, during the construction phase, when you have a great deal of scaffolding and temporary installations that present a fire hazard.

In the operating facilities, the design is such that the fire hazards are minimized. There have been not too many fires that I can recall in the plants I have been associated with.

Most of those that occurred have occurred at some high pressure type period such as during a refueling outage, or during a maintenance outage, when again you have a lot of welding activities going on, or you have temporary structures, scaffolding and so forth, that provide additional fire hazards.

Mr. Hager. Bearing in mind your comment that most fires are likely to occur in the construction stage, one of the things that is noteworthy in this section is that there is some discussion in your observations and in your conclusions to the effect that the fire protection systems are behind schedule.

Now, Oyster Creek has been on line, as I understand it, since April of 1969. It is not a new plant. It has been in operation for over ten years.

Could you give us some feel for the history of this area? Has this been a problem area?

Mr. Shafer. With regards to Oyster Creek? No, I don't think I could. As you are obviously aware, the portions of the fire protection system were being installed at the time of our inspection.

Mr. Hager. Could you explain for us why that is the case in a plant ten years old?

Mr. Shafer. You have to remember the requirements ten years ago were much different. After Brown's Ferry there were new requirements that came out. That was 1975. We can talk now for a five-year period as to when that specific requirement was issued to that facility. I don't know that.

Mr. Hager. Your conclusion, that implementation of these systems is behind schedule, I take it reflects the fact that they should have been taking these steps in fire protection earlier than that.

Mr. Shafer. No, no, that statement I believe—Mr. Fazano was the individual who looked at that area, and I believe his comment there was he had identified what their schedule was to do the job and that they were behind.

Mr. Hager. They were behind their own schedule.

Mr. Shafer. A CPM chart that would identify when the jobs are going to get done. Maybe that is where he got that information.

Mr. Hager. So this conclusion, on page 27, merely states that they are behind their own schedule for doing these things.

Mr. Shafer. Yes.

Mr. Hager. A secondary question would be whether or not their own schedule arguably should have been a little prompter in light of how long it has been since the Brown's Ferry incident and so on.

Is that a fair issue to raise?

Mr. Gagliardo. It is a valid issue to raise. I don't know that I can answer it. I know there have been task forces that have been assigned to evaluate the hazards analysis of each facility, and also a task force to review the licensee's administrative controls over the fire protection area.

I know before I came to the Performance Appraisal Branch I was an inspector in Region 4 and was actually involved with those teams doing those assessments at my facility, and I was aware they were doing it in all of them. There was a special task force assigned for each.

Mr. Hager. Can I assume one of the documents mentioned here on page 18 that was reviewed by the team might be a report based on one of those kinds of inspections—document 3, the report by the Office of Nuclear Reactor Regulation in the matter of Oyster Creek.

Mr. Gagliardo. Right.

Mr. Hager. So that would not necessarily have been a special inspection on Oyster Creek.

Mr. Gagliardo. It was one done at all facilities. All facilities that I am aware of have gone through this.

Mr. Hager. Presumably that document would give us some sense, then, of the findings——

Mr. Gagliardo. Of the commitments they had made—the findings that had been made with regard to their fire hazards analysis, the commitments they had made as far as how they were going to correct it.

Mr. Shafer. Making a systematic evaluation of the plants in operation for several years to bring them up to today's standards——

Mr. Hager. Based on the realization that the requirements for going on line and generating power ten years ago are more lax in some instances with respect to safety requirements then than they are today.

Mr. Shafer. The requirements to maintain safety are a little bit different—there are just more of them.

Mr. Galloway. A technical point. On page 26, item number 24, what are fire protection seals? The licensee was not performing surveillance on the fire protection seals?

Mr. Shafer. The only thing I can visualize these seals being used for is generally when you are going through a wall, and you are going through there with pipes, and if that is a firewall, or cable, then you have to have the seals.

Mr. Hager. To try to contain the fire.

Mr. Gagliardo. Called a penetration seal, where you have piping or cabling going from one area to the other, that you seal it off with a fire retardant.

Mr. Hunter. A comment. In the technical specifications in most plants now, if you remove one of those seals, break it for maintenance or design change modification you are required to post a watch, a person to observe that area, and substitute for the seal.

The technical specifications are written differently, but the technical specifications do have those requirements. You might run into it in that manner, where the licensee failed to post a guard or fire watch when he should have, a breakdown in administration.

Mr. GALLOWAY. You think that is what you were talking about here, not posting a guard?

Mr. SHAFER. No.

Mr. GALLOWAY. Or just not inspecting the seals?

Mr. SHAFER. How good is the seal, what is the seal material made of, and do they perform surveillance on it, do they take a look at it, see if the seal is effective, to see if somebody didn't try to pull a cable through without restoring the seal to its proper position?

Mr. GALLOWAY. Am I correct in reading this, that there was no surveillance done in this area?

Mr. SHAFER. There was no formal surveillance.

Mr. GALLOWAY. As opposed to missing one or two inspections.

Mr. SHAFER. No. An individual might walk around, and be aware that there are seals there, and might find a problem, and that would be identified as his surveillance. But there was no specific requirement for him to perform a surveillance on a periodic basis.

Mr. HAGER. And to record it.

Mr. GALLOWAY. So we don't know whether this was being done or not.

Mr. SHAFER. That is correct.

Mr. HAGER. I take it one of the reasons you want to do that—going back to page 23, the unresolved items in this section—one of the reasons you want to have a requirement for regular inspection is that these seals are degradeable? I take it they are probably rubber or something like rubber?

Mr. GAGLIARDO. Generally it is not a rubber material because rubber would be flammable. But it is a nonflammable elastomer like—flamastic, I think is the word they talked about, a material that has some elasticity, that is fire retardant.

Mr. HAGER. But it is also degradeable and, therefore, from time to time ought to be checked?

Mr. GAGLIARDO. Yes. In a power plant you are talking about operating at elevated temperatures, and your working spaces can be in excess of 100 degrees. In that type of environment, an elastomer might tend to age on you and crack. So you do need to periodically inspect those to make sure the integrity is maintained.

Mr. HAGER. I take it also what you found was that there was a lack of periodic inspection of some of these seals, some of these fire retardant devices.

Mr. SHAFER. That is correct.

Mr. HAGER. In any event, there was also no logging or listing of the seals, so that, for example, at some point in time the plant manager could say, "We know how old our seals are, when they were put in, when they should be replaced." That sort of information is lacking.

Mr. GAGLIARDO. I don't know that that is necessary, but you want to in a surveillance program have a listing of all of the seals, the penetration seals that are installed in the plant, and have a program for somebody to periodically inspect those, and to document what he found in that inspection.

Mr. HAGER. And that was not——

Mr. GAGLIARDO. That is the type of thing we are looking for. Apparently from reading the inspection and my recollection in talking about that, they had no program for doing that. If there was anybody observing penetration seals, it would be an individual doing just a routine tour of the facility and happening to notice, to look at a penetration seal.

Mr. HAGER. Without recording what he found.

Mr. GAGLIARDO. Right.

Mr. HAGER. Another unresolved item. This relates to fire drills. There was some discussion I believe on page 25.

Mr. SHAFER. That would be an observation.

Mr. HAGER. I am sorry. That is an observation. Numbers 12 and 13. Discussion of the frequency of fire drills. It was not clear to me from reading the report whether or not these fire drills were actually performed.

Was it your finding they actually do perform the fire drills according to these schedules?

Mr. GAGLIARDO. That is not my recollection. My recollection is that the problem that he had with this is that what is management doing with the documented results of the fire drill.

You do the fire drill, and you now have a critique of the fire drill, an assessment of the performance of the team. Apparently management was not providing any overview of that.

Mr. Shafer. He even identified that as a strength, as a matter of fact.

Mr. Hager. The fact there were drills.

Mr. Shafer. Yes.

Mr. Hager. But then he said in number 13 that there were no specified requirements for upper management to periodically assess the effectiveness of a fire drill.

Mr. Shafer. That is correct.

Mr. Hager. I believe my final question in this area has to do with—dropping back to page 22, item B—the breathing apparatus.

It appears you are suggesting there was an improper breathing apparatus. Is that the sort of apparatus that would have to be used by personnel in the event of a fire?

Mr. Shafer. They have made a commitment to improve the type of breathing apparatus they had at the site. The reason they left it unresolved is simply that the resolution, they have to take an inventory of what they need. I think they are getting ready.

Mr. Hager. Was there a problem with the kind of breathing apparatus that they had at that time?

Mr. Shafer. Only that it was not the type that had been identified as being the best type to use.

Mr. Hager. I see.

Mr. Galloway. Is that all you have on the fire area?

Mr. Hager. Yes.

Mr. Galloway. Why don't we take a break.

[Brief recess]

Mr. Hager. Back on the record.

Mr. Gagliardo. I will explain to you a little bit about the development of the management appraisal inspection methodology.

I came on board in early 1978, in April of 1978. One of our original tasks was to develop the methodology for doing the performance appraisal effort of licensee management, which we subsequently called management appraisal inspections.

In doing this development, we decided that in looking at a licensee's management control system, we would look at five features of that management control system; that is, the top five areas of what we call the MET chart, or Management Evaluation Tree.

That is to assure the licensee has a program which will cover the regulatory requirements and the commitments that he has made in that area. We will look at that program to make sure that it is adequate to assure conformance with his requirements and his commitments.

We will interview the people who have been assigned responsibilities under those programs to insure that those people are aware of what their responsibilities are.

We will look at these people to determine are they qualified for the responsibility that they have been assigned, and have they been adequately trained and retrained in their responsibilities.

Lastly, we will look at, in a cursory manner, the implementation of the program to verify that they have been implementing their program.

Mr. Hager. Let me interrupt.

I think it would be helpful if you gave us some feel for how the kind of inspection you are conducting really differs from the inspections that the NRC ordinarily does of licensees.

Mr. Gagliardo. The inspections that the NRC does are primarily compliance oriented. The regional inspections that are done under our inspection program, the I and E inspection program, take a look at the licensee's requirements, and to some extent his commitments, the regulatory requirements, and verify that the licensee is in compliance with those requirements.

The regions to a very small extent look at how well the people know their program, their program responsibilities, or how adequate is that program for insuring that these things are done.

They are only interested in the fact that here is a regulatory requirement, or here is a commitment that the licensee made, and we verify that the licensee has indeed done it. That is what the regional inspection effort does.

In the Performance Appraisal Branch, or I guess the PAT, as it was originally called, the Performance Appraisal Team, we were looking at how does the licensee manage that system.

In other words, we were looking at his program, do they understand the program, are the people qualified and trained for implementing it; only as a fifth area, to look at are they implementing the program to be in compliance.

So, there is quite a difference from what we do to what the regional program does. In the regional program, since most of the activities are performed at site, the majority of their inspection effort is performed at site.

We are interested in PAT, looking at what type of overview does management have over the operation of this area—licensed activities—what type of controls do they exercise over that.

Mr. HAGER. And in conducting your inspection, in PAT, is it fair to say that you do things differently in terms of who you talk with, the kinds of documents you look at and so forth?

Mr. GAGLIARDO. Very much so.

When we prepare for a performance appraisal inspection of the management area, we spend a great deal of time before we even go to the licensee, looking at his program and the procedures that he has implemented, or that he has issued for the implementation of that program.

So that before we even go to the licensee, we have to some extent answered the question, does he have a program and is it adequate.

Now, you don't answer that question completely. You always find in one of these inspections that there were additional procedures that you were not provided and that you need to look at at the site, or at the corporate office.

But by and large the determination of program existence and program adequacy is done in our preparation for going to the licensee.

So when we go to the licensee's facility, and we go to the site and to his corporate office, we are concentrating more in looking at the people that have been assigned responsibilities in this area, talking to them, and making sure that they understand what their responsibilities are, or if their responsibilities are not spelled out in writing to find out how they are doing this activity.

Then we looked at some of the records to see, verify, yes, indeed, it has been done. We look at training records and experience levels, or experience records of the people to determine if they are qualified for the job, and if they have been adequately trained and retrained for that position.

Mr. HAGER. I take it regularly I and E inspections rely much more heavily in looking at log records.

Mr. GAGLIARDO. That is right. In a regular I and E inspection you would do some preparation beforehand. But you would go out and be primarily looking at the records of the activity.

Mr. HAGER. Rather than talking about people.

Mr. GAGLIARDO. Rather than talking about people or looking at the procedure requirements for performing that activity.

Now, in the I and E's inspection program they do look at some of the procedures. But primarily they are looking at operating procedures or surveillance and calibration procedures; in other words, procedures for doing a specific activity as opposed to the management control procedures, or the administrative procedures for the control of that activity.

Mr. HAGER. Quality assurance procedures?

Mr. GAGLIARDO. Right. So there is some degree of overlap. But it is really quite a different inspection effort than what the regional people do.

Mr. HAGER. All right. Now, having described it for us, perhaps you can give us some chronology of your efforts to date in the program.

Mr. GAGLIARDO. Okay. The original inspection efforts which were done in fiscal year 1979, we did in the fall of 1978, an inspection at Palisades, which is in Region 3.

Mr. HAGER. In Michigan?

Mr. GAGLIARDO. In Michigan. We did an inspection in February of 1979. The San Onofre, which is in Region 5 in California, the utility is Southern California Edison. Then in March of 1979 we did an inspection of the Peach Bottom facility, which is Philadelphia Electric in Region 1. In May of that year we did an inspection of the Brunswick facility, which is Carolina Power and Light. That is in North Carolina.

Mr. HAGER. In Region 2?

Mr. GAGLIARDO. In Region 2. Then in August of 1979 we inspected the Arkansas Nuclear 1 facility in Region 4. So in fiscal year 1979 we did a management appraisal inspection at five licensee facilities, one in each of the regions.

Now, those inspections were done looking at those five features. We were looking for those five features. But we had not yet fully developed the elements of those features that we wanted to look at.

We had spent quite a bit of time as a team developing checklists, reviewing the checklists, and saying, okay, for each of these areas, here is what we are going to be looking at.

But it wasn't until just before the inspection at Arkansas in July of 1979—four of us attended a workshop, or it was a pilot of a workshop that was presented by EG and G, a contractor for the Department of Energy.

These people have been involved in developing a MORT seminar—that stands for Management Oversight and Risk Tree—which is a program that EG and G had developed for the Department of Energy, to train the Department of Energy investigators, in an analytical tree approach, or a fault tree approach, to analyzing an incident or an accident, looking at the management oversights that contributed to or caused that type of accident.

Well, our management in the performance appraisal branch decided very early on this is the type of training we needed to have, and so all of us had been sent through this MORT training and the subsequent, what they call AI—or Accident Investigation—workshop as a follow-up.

The EG and G contractor had also been contracted to develop a performance appraisal workshop for us, and for the Department of Energy.

In July of 1979 they held a pilot of that workshop and had four of us from the Performance Appraisal Branch attending. A number of DOE people sit in on this one-week workshop.

We in the performance appraisal branch felt that this program was not suitable for us because it was not too much different from the audit activities that we normally do in NRC.

They called it in DOE an appraisal, where we call it an audit. The techniques are something that we have been using and have refined over the years in our routine inspection efforts.

But we did come out of that with some pretty good ideas as far as structuring an appraisal. It is from that effort, and the knowledge we gained on that, that we developed this Management Evaluation Tree, which is really just an analytical tree that lists those five features that we are looking for in a management control system, and then builds on to that the elements that you are looking for in each one of those.

In other words, in the area of the program, we are looking at a program at the site and at the corporate office. We are looking to see that that program includes policy statements from corporate management. It includes directives from the next levels down of corporate management, on how they want this area to be managed. It includes the administrative procedures at the site.

Mr. Hager. You have given us a copy of that document.

Mr. Gagliardo. Yes. That is available to you, showing the elements of each of these features.

Then we said, okay, this then is going to be the key to our management appraisal inspections. So we then needed to develop a guidance on the use of this tree for evaluating licensee management.

So we then set about the task of developing a user's guide, which I have also provided you with, which describes each of these elements and what the inspector is to look for in each of these elements; in other words, what do we mean when we say look for policy from top-level management. That guidance is provided in that user's guide.

So, we have now defined what each of those elements mean.

Then we went the next step forward, saying okay, here are these elements and what they mean, now let's develop a checklist that the inspector can use to inspect the facility and the management of that particular functional area.

This is generic to all functional areas. We apply this management control system in the MET chart to all the functional areas. This is a basic management control system that we are looking for in each of those areas.

So, we then develop a checklist which we call a generic checklist, which is to be used by the inspection specialist to inspect that functional area.

Mr. Hager. The functional areas that you look at, as you do these inspections, would they be the same as in the Oyster Creek report?

Mr. Gagliardo. There have been a couple of very minor changes. The radiation protection area, and the RAD waste area—well, we spelled those out separately in Oyster Creek. Radiation protection, radioactive waste management, and environmental monitoring.

We have added one other area that was sort of combined in those three; that is, the area of emergency planning, which is another area that is added.

The area of corrective action and management of generic issues, we have changed the title. It is just a corrective action system. It still includes a look at management of generic issues, but the title is changed.

Fire protection and prevention. All the other areas are still intact as spelled out here in the Oyster Creek inspection, with the one exception that we have added emergency planning. It had been incorporated in those other three.

Mr. Shaper. These three areas, and the one he is talking about, the emergency planning, will not be done for the next year as a result of another effort taking place at headquarters through the HP department.

Mr. Gagliardo. Right. The I and E management has assigned a task to the Division of Fuel Facilities and Material Inspections. They are the people who do the radiation protection inspections, and the inspection of the materials licensees.

They decided late last year, I guess it was, that they were going to do a special appraisal of the management of this particular area, the radiation protection area, at all operating licensees.

So, they contracted a number of people from national laboratories and elsewhere, people in the radiation protection field, health physicists, contracted to bring them in and form assessment teams, which they have formed, they have trained, and have sent out now, and they have begun that effort early this year—I think the first one was sometime in January—of going to all of the licensees and doing an assessment in that very narrowly scoped area of RAD waste management.

As a result of that effort, management felt that there was an overlap in that area and our area. So, the decision was made last week that for the rest of this year we will no longer include in our management appraisal inspections a look at the management of radiation protection, RAD waste management, environmental monitoring, and emergency planning, that that will be covered in this appraisal effort.

There were a few areas where we did not have overlap, that we did something they did not do. Mr. Stella asked that we get together with those people and insure that there was indeed complete overlap, that what they were doing would essentially duplicate what we were doing.

Our radiation specialist, Mr. Blaine Murray, is in Denver now, this week, meeting with all of those people, and they are going to resolve that issue and bring that program up to the level that we would do in our efforts.

So that effort should be completed at the end of this year, at which time then we will, starting next calendar year, in 1981, will again be doing the HP, or the radiation protection appraisals as part of our overall management appraisal inspections.

Mr. Hager. You stated inspections that you did conduct last year. Could you give us some sense now of the inspections you have scheduled, and your current staffing level, and what you expect to accomplish this year?

Mr. Gagliardo. This year we had hoped to do somewhere between seven and ten inspections. We were budgeted to have 17 inspection specialists in the Performance Appraisal Branch.

Right now there are eight people in the Performance Appraisal Branch, and I have just recently been selected for a section chief job in Region 4, and will be leaving the Performance Appraisal Branch sometime in early to mid-May.

We are down to seven people. The problem that we have had in getting the Performance Appraisal Branch fully staffed has been one that management has decided to provide resident inspectors at all licensed facilities, all the operating ones and all the construction facilities.

So, there has been a considerable manpower drain from the people available in the regions that we could tap and recruit into our Performance Appraisal Branch.

Mr. Hager. Because you want experienced inspectors.

Mr. Gagliardo. We want to have essentially the best inspectors we can get. I think we have had that. We have had, in my estimation, the cream of the crop of the inspectors in I and E.

As a fine example, these two gentlemen just received a high quality performance increase this morning from Mr. Stello, and very well deserving of it, too.

So, we have got a real problem. We have got a problem that the management has mandated the regions to staff all the sites with resident inspectors. We need people to do the performance appraisal work.

Mr. Hager. I take it you had some manpower problems last year as well because of the detailing off of some of your people to Three Mile Island.

Mr. Gagliardo. That is correct. Last year the Three Mile Island caused us to lose three people. Hunter here was one of the investigation team; Tim Martin, out of Region 1; and Tony Fazano out of Region 1, both of whom were on the Performance Appraisal Branch and were assigned to that task. They were gone from 1 April to mid-to-late August.

Mr. Hager. Mr. Fazano is again at Three Mile Island.

Mr. GAGLIARDO. That is right. He came back to PAT after that, was involved in the Oyster Creek inspection, and then right around the first of this year, I believe it was, Tony was selected for the section chief job at the site staff at TMI.

He has left PAT. We have lost a number of other people, too, from PAT who have been promoted into section chief positions.

Mr. HAGER. Given some of those staffing realities that you faced, how many inspections were done last year?

Mr. GAGLIARDO. The last fiscal year we did five management appraisal inspections.

Mr. HAGER. How many do you think you will do this year?

Mr. GAGLIARDO. We have completed the Oyster Creek one, which is the first one in this fiscal year. We had scheduled the Crystal River inspection, and had begun that inspection when that incident occurred on February 26 at Crystal River, and our people were pressed into service to provide the interface with our incident response center.

Also, Dorwin and Wayne were put on the task of evaluating the incident itself and what was the cause.

Mr. HAGER. Because the two of you were there at the time?

Mr. GAGLIARDO. They were there. In fact, Wayne was in the control room at the time the incident occurred and observed the performance of the operators there.

Mr. HAGER. So that inspection was completed.

Mr. GAGLIARDO. That inspection was terminated and is now going to be rescheduled for probably September, when the licensee returns to operation. He currently has shut down, in a refueling outage.

We generally do not go to the licensee during those periods because the management is sufficiently pressed to get on with the activities involved in that outage. We try to come in at a lower ebb as far as the activities going on.

We try to have minimum impact on the licensee.

Mr. HAGER. I think you also have an inspection scheduled beginning next week.

Mr. GAGLIARDO. Right. Next week we will begin an inspection effort at Rancho Seco.

In July, we have scheduled two inspections; that is, providing we are successful in getting some more people on board. With seven people quite obviously you cannot do two, you can only do one.

If we can get additional people on board and get them trained to our methodology, then ideally we would like to do two inspections in July. We are currently scheduled to do an inspection for the Fort St. Vrain facility, in Region 4, and the Oconee facility in Region 2.

Then in September we will do two inspections again, the Davis-Besse facility in Region 3 and Three Mile Island, because the Three Mile Island Unit 1 is looking to restart sometime around the first of the year.

Mr. HAGER. Now, those plans are predicated on getting enough staff to be able to have two inspection teams in the field.

Mr. GAGLIARDO. If we do not get additional staffing, we are looking at now realistically only being able to do the Rancho Seco, one inspection in July, either Fort St. Vrain or Oconee, and one inspection in September.

So we could then be restricted to have only performed four management appraisal inspections in this fiscal year, including Oyster Creek.

Mr. HAGER. Bringing your total by the end of the fiscal year to nine inspections.

Mr. GAGLIARDO. To nine, which is very important.

Mr. HAGER. That is nine inspections out of the approximately 70 operating——

Mr. GAGLIARDO. You are talking about 70 licensed units. But when you talk about sites, there are a number of sites that have two units.

For example, when we went to Arkansas, it was a two-unit site. Brunswick. So you are talking I think 50 sites. So if we do only nine this year, that means in two years we will have covered but 20 percent of the operating licensees.

We really need to get involved in looking at some of the construction licensees. We had hoped that if we could get the people on board, that we could begin the development this year of the methodology for management appraisal inspections at the construction facilities, so that in fiscal year 1981 we could then begin some inspections at construction facilities.

Mr. HAGER. Do you now expect to be able to do that?

Mr. GAGLIARDO. I am not that optimistic about our staffing. Quite frankly, there just are not that many people available in the regions who have not been assigned to a resident site. I don't foresee management allowing us to recruit people off of the site.

Now, we have a posting up of the positions we need to fill. We have one man who is at the resident site now who has applied for it, and another man who has been ticketed to go to a resident site near the end or the middle of the year has applied for this position.

I would say realistically the only hope that we have of getting those two people is the prospect that it would involve a promotion for them.

[Off the record]

Mr. Hager. Did I understand you to suggest that the NRC management might resist letting them take some of these people you would like to take into the program because they are concerned about the resident inspector program?

Mr. Gagliardo. I personally can't speak for what management is going to do, but I feel personally that probably we would not get a resident inspector to come onboard unless he had specifically requested it and unless it involved a promotion for which we really couldn't hold him back.

But I think we are finding, and it is probably true that most of the people who have moved to sites as resident inspectors probably wouldn't want to come on to PAT, anyway, in a lateral move, because they have just picked up their family and moved them to this location and just starting to get settled, and they probably have no desires to pick the family up again and move back to the regional office or to wherever the appraisal branch is going to be located.

Mr. Galloway. How would you compare your effort with the resident inspector program in terms of importance and in allocating limited resources?

Mr. Gagliardo. Of course I am biased in my opinion on that, but I feel the resident inspector is there. He is observing the licensee performance of license activities. Again, he is more compliance-oriented, looking at what the licensee is doing now. To some extent, he is looking back at what he has done in the past.

We in PAT are looking at the management of the facilities to try to get some assurance that you have the management controls there to give you some assurance you are going to avoid future problems. The resident inspector doesn't get into looking at the management. He has dealings on a day-to-day basis with site management, and he certainly has some impression of what site management is doing and how well they are doing at controlling that.

He doesn't really get the look also of the overview that is being done by the corporate management, which we feel in our program is a very important look. These are people who are making the decisions, the staffing decisions and other decisions that are made to support that operation and to provide the overview of it, and I don't personally feel that the resident inspector is going to be able to get that type of appraisal of the overview that corporate management is giving to the operation.

I certainly think it is important that he see what is going on on a day-to-day basis, the traffic-cop approach if you wish, but I also think it is very important that you take a look at the management, and you try and prevent some of these problems before they occur.

If a problem occurs, a resident inspector hopefully is there and is going to catch it, but you would like to be able to prevent the problem from ever coming up.

Mr. Shafer. I think there is another thing important, and that is no matter whatever effort we have made to recruit people for the Performance Appraisal Branch, we are sitting in a halfway house somewhere waiting for management to come up with a desire as to what is going to happen to us. Yes, PAT will exist, we have been told. What form, we don't know. The people who are interested in coming to us might not be interested in moving to Chattanooga, Tennessee. I am certainly not. Management hasn't decided whether they are going to try to locate us in a central location or keep us separated. There is good argument for both of them.

Mr. Hager. One thing I wanted to follow up on, I take it you are indicating that there is frankly some resistance from NRC management to, let's say, an aggressive or thorough-going implementation of the PAT concept. Is that true?

Mr. Gagliardo. I think that is a correct observation. I think in headquarters there is not that much resistance to the PAT function, and I feel that we have fairly good support now from our management. But there is some very definite resistance to the PAT organization by regional management. Regional management is concerned in a number of areas. I think one of the concerns is that we are looking at how well the region has done at inspecting and appraising their licensee's performance, so we in some respect are providing an overview of what the region is doing.

Some regional managers feel that we don't have the background and the experience to do a management appraisal-type inspection. They feel that those management appraisals should be done by somebody who has "management experience." Many of us have management experience, but outside of NRC; but their position is they feel you should have had management experience in NRC.

Mr. Galloway. Let's see if we can get more specific on that. Is that the attitude of Region 1 that you just described?

Mr. **Gagliardo**. No, I don't believe that particular attitude is one that comes from Region 1. I know of some of the other regions that do feel that way. I have never felt——

Mr. **Galloway**. Can we be specific?

Mr. **Gagliardo**. I never felt that Region 1 was specifically concerned about our qualifications to do management——

Mr. **Galloway**. I guess my question is, of the five regions, which are most concerned about this special inspection effort?

Mr. **Gagliardo**. I think we have concerns in all five regions, and I don't think there is any region I could say that we have total support. There are some of the regional directors who are supportive of PAT, and some who are not supportive of PAT. The regional branch chiefs, there are a few who are supportive of PAT. I would say the majority of them are probably not supportive of PAT.

I think it is essentially across-the-board. We do have some people who have voiced support for PAT, but I think they are in the minority.

Mr. **Hager**. Mr. Shafer, I would like to hear your contribution on this. How do you analyze the resistance you are finding from the regions?

Mr. **Shafer**. I consider it natural that they would resist change. They have been around for a long time, and we are starting something new. How they attack what we are doing, I think they are attacking our work—in providing constructive criticism, we certainly accept and want that, but if it is made into a personal attack, or a judgment on their part, then obviously it makes me unhappy, too.

I think Jim was fair in trying to identify those who support more or less in some manner what PAT is doing. I have to say really they all have stated yes, we think PAT should exist, but at the same time they have resisted it, and I can't say if they have made any effort to try to do away with it.

Mr. **Hager**. Is this because you have been looking over their shoulders and seeing what they have done?

Mr. **Shafer**. I think that is probably one of the biggest factors.

Mr. **Galloway**. I understood you gentlemen to say that the region is interested in compliance and that you are interested in management. Where does the duplication of effort come from?

Mr. **Shafer**. We are talking about the inspection effort, the inspectors in the field, what PAT is doing, the PAT inspectors, and what the regional inspector is doing. I don't think there is any argument that we have some overlap, but we have to have that in order to make our assessment.

The biggest argument we have had with most management within the NRC is that—we are not appraising management; we are not judging whether this particular manager is capable of performing his function. We are appraising the management controls. Now that is another factor if the individual is not doing his job. That is readily apparent. But if the controls are there, that is what we are concerned with. It does not belie the fact we were out making judgments on management when we had never, ourselves, been members of management.

Mr. **Gagliardo**. The other point is there is not that much overlap in our inspection effort. We are identifying problems at the licensees, and one of the things we are required to do now, what we did at Oyster Creek, that is, an assessment of the region's implementation of the inspection program. So in all of these inspections now, beginning with the Oyster Creek one, we will be looking at, okay, here is an area in which we have problems. We found the licensee's performance to be poor, and we then look at, is the program adequate to have covered that. If not, then the program needs to be revised, but if the program should have caused the region to get into that area and find those types of problems, then we are essentially putting the Region on report, because either they didn't implement the program, or, if they implemented the program and still didn't find those problems, then you raise questions about the inspectors, their competence, their objectivity, et cetera.

That is a very sensitive issue to the regions. You know, I find it interesting in this business, before I became an NRC inspector, I was on the other side of the table as a licensee, so I have been on both sides of the table, but I find, as a general rule, we, as regulators, find it very difficult to have somebody look over our shoulders. We find it difficult to put ourselves in the other guy's shoes. I don't know why that is, but it is an observation.

Mr. **Hager**. That is what you see happening with the regions, I take it.

Mr. **Gagliardo**. Yes.

Mr. **Galloway**. Before picking up on additional specifics in the report, I notice that throughout the report that the report would contain some fairly critical statements in the conclusions section, and yet the licensee was rated as "average." Could you define for us your use of the term average in this report?

Mr. GAGLIARDO. Are you saying an overall appraisal of the licensee was average——

Mr. GALLOWAY. No. When you used the word average in the report.

Mr. GAGLIARDO. When we use the word average for appraisal of a particular area?

Mr. GALLOWAY. Yes.

Mr. GAGLIARDO. I will try, and I will let you jump in, Wayne.

What we are trying to look at is, we are trying to evaluate the licensee's performance from a national perspective.

We avoided the use of conclusions in the first five inspections we did, because we felt then that it was really not fair to the licensee or ourselves to make that judgment, because the individual making that conclusion is basing that conclusion on his experience that he has had at one region, and most of us have been only in the one region.

So it wasn't until we had had a number of inspections under our belt that we could say that we have had a larger perspective to draw on, and that we could draw a conclusion based on what we see average for licensees on a national basis.

Mr. GALLOWAY. You are grading them on a curve, so to speak?

Mr. GAGLIARDO. I guess you could say it is a curve. I never thought of it in that respect.

Mr. GALLOWAY. Theoretically, is it possible for someone to be rated as average, the performance rated as average in terms of how they compare with other utilities, but to be performing in an unsatisfactory manner?

Mr. GAGLIARDO. I wouldn't say that. I would say if the licensee's performance was unsatisfactory, we would call it that, and that is the one unique thing about the individuals we have on this team, is that we haven't been afraid to stand by and call it as we see it.

Mr. HAGER. When you characterize something as poor, you are saying that is unsatisfactory?

Mr. GAGLIARDO. We are not saying it is unsatisfactory, but certainly it is the next step to being unsatisfactory. I think if we classified a licensee as being unsatisfactory, we should take a serious look as to should we allow this licensee to continue to operate. Remember, we are looking at a management control system. A licensee's management control system could be poor, and he could still be doing a satisfactory job, because of the fact that he has some good people who are implementing that program for him, and who know how to keep him out of trouble.

The real concern that we have in PAT, in looking at the program, is that here you have a licensee who has a very poor management control system. His program and procedures just don't measure up to what we would like to see. But he has some people who have been there, been in these positions, the responsible positions for many years. They know what the requirements are; they are getting the job done.

Our concern is, hey, if this guy who is in this critical position retires, is sick, or died, or is pulled out by the licensee and put into some other facility, you know, the licensee might be building another plant in the next county, or whatever, and feels they need his expertise, they pull him out, put in somebody else who is green to the job. If you don't have a management control system, we feel you are asking for trouble.

Mr. GALLOWAY. How likely is it that a utility with a poor management control system will be getting the job done?

Mr. GAGLIARDO. Again, it depends on the people.

Mr. GALLOWAY. What about at Oyster Creek?

Mr. SHAFER. It depends on what you mean by the job.

Mr. GAGLIARDO. I wasn't on the inspection team, so I am only talking from second-hand. I can give you observations I had from an inspection I participated in. We did an inspection at the Palisades plant. In some of the areas we felt that the Palisades management control systems were weak. And Palisades was beginning already to see some problems as a result of that, because of the fact that they had a Midland plant they were trying to staff up, and they had started to pull experienced people out of Palisades and bring them up to Midland, so they had people onboard who did not have the experience, and they didn't have a management control system, so they were starting to have some problems.

Palisades right now is going, I understand, to litigation on imposition of a civil penalty of $450,000.

Mr. GALLOWAY. Mr. Shafer, in terms of Oyster Creek, is it your view that the operation of the plant is more satisfactory than the management control system?

Mr. SHAFER. I believe we found that the management controls in that area were average, and I believe what was intended there was an understanding that this is pretty much what we have seen throughout our inspections. If the individual—in this case he had been through several PAT inspections, and his previous experience, and based on that background we used the term average. There were no shocking great things that were different and we could not say they were doing something over and above the requirements or something exceptional and good that we haven't seen before. Yet at the same time, the management controls were there, and they were being followed.

You can go to any nuclear plant in the world and find noncompliance, which has no judgment in reality towards the management control. The fact that you find noncompliance might lead you to go to management and see what kind of controls they have. We feel that if the management controls are there, that can lead to a reduction in noncompliance. But that is a judgment.

Mr. Galloway. Now, on the design, engineering and modification section of your report, can you shed any light on your failure to note any items of noncompliance?

Mr. Shafer. I believe there were several.

Mr. Galloway. I think on page 30 it said there were none.

Mr. Shafer. I think you are thinking of maintenance.

Mr. Galloway. You are right. I am sorry.

Very briefly, on the design section, what is the significance, in your view, of the fact that operating personnel were not notified in advance of impending work and that the group supervisor was notified of modification work starting only when the workers were coming into the plant gate. That is on page 34.

Mr. Shafer. The significance in that is, first off, the shift supervisor is responsible for everybody on that site, knowing where they are at and what they are doing. Therefore, when he is being made aware of something that is going to happen in his facility and they are just coming through the gate when he finds out about it, he has had no time to sit down and think about it, to look at the design if there is a modification that is taking place, to add his own expertise, to fit that into his program.

Once a design is in progress, and they are getting ready to turn it over to operations, we strongly feel that the control room operator, and the operations organization in general, should be fully aware of what took place, what changes have been made. That responsibility is imposed on them because they are required to operate that plant.

If they change the valve line-up or redesign the piping system, now you are going to ask an auxiliary operator to go down and do a valve lineup. If he was never made aware of the design change, how is he going to know he is doing it right? And that is, in our opinion, very significant.

The operator in the control room is going to manipulate valves and start equipment. What should he know about that equipment so he knows it is operating correctly? We strongly feel that these modifications, prior to completion, during the time they are in progress of being completed, that the people who are going to be responsible for operation of the equipment should be fully aware of them.

Mr. Galloway. What is the significance of the fact that the engineering department did not review the procedures? Page 32, bottom of the page, under observations.

Mr. Shafer. When I wrote this observation, I wanted to point out that the modification program, in certain phases, was a fairly good program, but the implementing of the procedures to accomplish the work, that is a requirement written in their own program, I stated in here it was reviewed by the PRC—okay, the significance of that relates to the concept that the licensee uses to develop a modification. First, they design the program. They put in all the requirements, the codes, and when that is completed and has had all the proper reviews, then they are required to write the installation specifications.

These installations specifications are written by another organization and reviewed on-site, and the procedures go on the job. These are the actual implementing procedures.

The individual who came up with the initial design made all the calculations, the review and said, here is what we have to have; here are the codes and standards; this person did not go back to that installation procedure to see if every consideration that was specified in the design package was included in the installation specifications. And I believe that is what I pointed out; that obviously the number of temporary changes that were being made to the procedures was a result of that failure to——

Mr. Galloway. In the interest of time, maybe we had better ask you to highlight in this particular section what you found to be the more salient points.

Mr. Shafer. Of the design program?

Mr. Galloway. Yes.

Mr. Shafer. In my conclusions I tried to highlight what I felt the problems were, that of the fragmentation of responsibility, as I pointed out earlier, that an individual engineer at the corporate office doing the design work, and then is no longer available unless somebody calls up on the phone. He doesn't follow through with the package. The project close-out, again, the problem involved there is the timeliness; once the job is actually completed, how long does it take to get the drawings up to date, and how long does it take to make certain that everybody has been made aware that a design change has taken place.

This is typically the timeliness of these changes; it is the paper work, if you will. The job has actually been done, everybody is happy with it, and the equipment is running again, but now comes the paper chase to make sure we have the certification, procurement documents, review documents and drawing changes, and that takes the longest. I commented that was weak. The control of documents was identified and control of drawings was identified in the noncompliance section, and the fact that they had started to make some progress in that area, but they still had more work to do.

Now, I sat back and looked at this; this is the first time I had gone in and done an inspection in the Performance Appraisal Branch regarding design changes. Based on the experience I have had at the other facilities, when I was an inspector in the regional office, I found that in many cases these problems prevailed. I could speculate why they prevailed. Primarily I suspect because the operations inspector spends a lot of time in operations and not a lot of time in the maintenance and design change areas.

Mr. HAGER. One of your conclusions, though, on page 36, indicates that you were concerned about the licensee's momentum in correcting some of its failings in this area. You suggest in the conclusions that the timeliness of the licensee's corrective action in this area should be followed closely, and an interim measure should be established to reduce the impact on safety. Then you further note that even though the licensee has some goals they again, as I believe we discovered in other areas, have made no official commitments. Does this indicate to you that there was some foot-dragging, reluctance to get on?

Mr. SHAFER. Possibly manpower problems. This goes back to talking about how many positions they were going to fill at the site. They recognized the need for somebody over there to track those modification packages, to make sure that the records stayed together, to make sure that the drawings were updated. It is just a complex system. In recognizing it, I gave them credit for that. They had hired a new supervisor of drawing who was starting to pick his program up, but there were still many drawings left out and I have no confidence they might necessarily be up to date. They were going in the right direction, okay, and that is why I really can't—I didn't feel I should have to hit them with regard to how poorly they were doing, because they were progressing far enough. What they really needed to do was sit down and say okay, we have all these plans and here is what we are going to do, but what are we going to do until we get it done.

It is fine for a manager to come up and say, here is my organization chart, and I am going to hire these people, and I am going to have one for this and one for here and there, and I think that is fine.

My second question is, when are you going to have that? And what steps are you taking to assure that you are not going to impact on safety until you do have that. That is where they fell apart.

One of my conclusions and recommendations was, I believe, that the regional office get together with them and get some firm commitments. I believe you see in the response that these commitments are being made by these people.

Mr. GALLOWAY. What about on the corrective action system and management of generic issues? Would you feel comfortable in highlighting that?

Mr. SHAFER. I can try. Mr. Sinkule had that again. We have all worked this one, so I am sure any one of us would be able to handle that one.

Mr. HAGER. Before you start on that, there was one other matter in the design thing on page 31 I wanted to ask you about the implications of. Up there at the top of page 31, your item of noncompliance.

Mr. SHAFER. I knew that was coming.

Mr. HAGER. What does that really imply? The language of this item suggests that a modification was made without any documentation that should have guided the making of the modification. And then the paper was essentially written up after the fact.

How disturbing is that to you?

Mr. SHAFER. The fact that—it disturbed me. It was a modification within a modification, and they did not recognize it as such. They were making a major change to the CRD system, when this value of——

Mr. HAGER. The CRD system is?

Mr. **Shafer**. The control rod drive system, and when they were making this change, they recognized the need for this piece of equipment that came in; they looked at it and said this weld is not acceptable, and decided to replace that weld. When I saw that, I said, how did you go about doing this? And they explained very carefully to me how they did it. They cut the weld out and re-welded it and did radiographic work. They had some probably very professional people doing the job.

I looked at it and said: Well, let me see how you did it; let me see your track work, your paper work. And they didn't have it. The one procedure that they had was traceable, but I did not accept it primarily because it was written something like three days after the incident, and one of the supervisors there stated to me categorically that it was written primarily to identify and remind themselves of what they had done.

The procedure by itself will not tell you what they had done. It would tell you what kind of weld material is in there, but that is all. I was not happy with it——

Mr. **Hager**. Again, help us to see the real world implications of that sort of procedure. Are you suggesting that their failure to essentially plan and describe in advance how the modification is going to be made as a general proposition is the kind of practice that can lead to modifications being made incorrectly? Is that the nature of your concern?

Mr. **Shafer**. That is right. It is one of controlling the modification. Regardless of how small the modification is, the weld is in there for a reason. It is a good weld; it is supposed to be a quality weld. The fact this was a safety related, or they identified it as part of a Q-mod package was significant, because then it fell into their control program; however it didn't go in there.

I saw this same problem in the maintenance department, so I feel it was prevalent in that organization. If it comes time to fix something, then they go ahead and fix it. That is not a good way of doing business when it comes to a safety system.

Mr. **Hunter**. Let me help a little bit. You want to get a feel for it, and we won't talk about whether it is a small mod or large mod. It is a modification, and again the law says for a modification which would impact on public health and safety would be performed in a certain manner, and they have the procedures for that type modification, and they even said it was that type modification.

Mr. **Hager**. Safety-related?

Mr. **Hunter**. It was a safety-related modification. What that then requires is a design and a design review, or it needs to be sent back through engineering, and they have the procedures for that so the engineer can say that is the proper weld, or that is the proper procedure, and we need quality control hold points; we need radiograph; the code says we need to hydro this particular activity, or don't need to hydro this activity.

Mr. **Hager**. What is hydro?

Mr. **Hunter**. Hydrostatically test, water-test, that particular activity. I think Wayne's concern is that they made a modification outside their own control system and it probably was done by a supervisor or somebody in the field without the appropriate engineering reviews or somebody to stipulate the code requirement and ensure—we are not saying they didn't meet all the code requirements, okay, that they did not use the control mechanism that ensured they presented it to an individual who was knowledgeable of all the code requirements; in other words, the quality engineering group; that type of thing.

Mr. **Hager**. So that if you perform safety-related modifications in that fashion, as a general rule, you ultimately could get to a point where a modification could be made that would not meet the safety concerns.

Mr. **Hunter**. Absolutely.

Mr. **Shafer**. It is a way of doing business; that is right. And I am not saying it necessarily exists at Oyster Creek. Some evidence is there. The point is that management should look at the job and determine how much work they have to do on this in order to make sure that they are going to do it right. Once having done that, then the crew can go to work. Having someone in the field making "let's-go-to-work"-type statements, how does management know what is going on? What assurance do we have when it comes time that there is a valve in there that is safety-related, I mean even more significant, that that valve is going to be handled in a proper manner, management is going to review it and make sure that the proper work is done.

Mr. **Galloway**. On the corrective action and generic issues.

Mr. **Shafer**. Very quickly with regard to the corrective action system, Mr. Sinkule chose to break his conclusions in two particular areas, internally-identified items and externally-identified items. Our objective there is to look closely as to how well management is made aware of incidents that occur. These may not necessarily be LERs that obviously require the manager's signature, but could be observations made by a person in the field and reported to the proper supervisory personnel. That information should ultimately get to management. It is an overall control system. It is a matter of communications, written communications or adequate verbal communications.

Do you have any particular questions on it?

Mr. Hager. Once more, if you want to give us a sense of your overview of that section. Since this was Mr. Sinkule's——

Mr. Shafer. I would have to read his——

Mr. Galloway. Is not the need to conduct these types of reviews, isn't this one of the major lessons that has been learned presumably from Three Mile Island?

Mr. Shafer. This is something I have certainly been concerned with for a long, long time, long before Three Mile Island. Management has certain requirements to report to the NRC various aspects of their operation. If first-line supervisory truncates that the communications coming from their employees, if they (the supervisor) decide that something is not reportable, then management is not going to find out about it. This we found in many instances where an hourly employee might have a concern; he is directed by the management to call his supervisor, who will then decide whether to report it. We question that.

Mr. Hager. You found that at Oyster Creek?

Mr. Shafer. I would have to check. I know we found it at other facilities. Brunswick was one. We found that poor, because that has a throttling effort and generally we look for two levels of supervision. In other words, the supervisor made a decision and his supervisor would look at it and concur with it. That is just simply you can't expect that supervisor to necessarily know each and every requirement other than operational tech specs.

Mr. Gagliardo. The gist of what I remember about the corrective action system was the fact that the licensee had a large number of outstanding items that had been identified by that corrective action system that had not been corrected, and certainly Mr. Sinkule is referencing a finding in section 11(b) which I believe is the quality assurance audit area, where a number of audit findings had been identified and put into the corrective action system, and corrective action just was not being completed in a timely manner.

Mr. Hager. I take it this is the basis for the conclusion with respect to internally-identified items at the top of page 42, where you conclude these failures to correct essentially were significant and indicated the lack of management support for items identified using the corrective action system. Is that correct? Is that what led to that conclusion?

Mr. Shafer. Yes, he did identify it.

Mr. Gagliardo. We are putting some words into Mr. Sinkule's mouth. I don't know all of what went into his decision on making that. I remember we discussed each and every one of these when we were reviewing the inspection report back in Region 4. That has been a long time ago, and I don't remember all the details of those conversations. I do remember this particular item being discussed as a concern.

Mr. Shafer. There was a group effort on this particular area, because we all sensed it, be it Q.A. or whoever finds a problem with that particular area. That would go to the manager, and the manager would ignore it or write back some insulting statement on the particular thing and then turn it off.

Our concern was, well, if the manager is going to ignore the quality program, what do you suppose his underlings are going to do? And I think that is one of the things that we tried to bring up.

Mr. Galloway. Did you actually review some of these memoranda or forms that the manager returned in what you describe as an insulting fashion?

Mr. Shafer. I did one audit; yes. It was just the way it was written, if you will. Maybe it was a poor choice of words on my part, but nevertheless I could sense in there "this guy has no business in my shop."

Mr. Galloway. What is the significance—I think I understand it, but for the record—what is the significance of the licensee relying on a supervisor's memory of past events in order to trend? That is in the middle of page 40. That is an awfully loose system, isn't it?

Mr. Shafer. Yes. As a matter of fact, we look more and more at how well the licensee trends their problem areas in their program. They claim when we look to see if they have a formal trend program, they normally will say, well, we remember back when we did it, you know, and obviously I am not going to call the man a liar, but I will say it is a poor way of doing business.

Mr. Hager. I am trying to link up a couple of the problems you discovered at Oyster Creek. I am wondering, isn't it important to ask about such things as personnel turnover in light of saying that you concluded the licensee relied on the supervisor's cognizance of the past events to institute a study of failure patterns. Did you happen to inquire about such things as turnover at the supervisor staff level? I am asking that obviously because if the supervisors change rather frequently, that supervisor's cognizance of past events is rather limited.

Mr. Shafer. That is right. Mr. Sinkule, I am sure, didn't think it was necessary because we feel that is probably about the poorest type of program you can have is to rely on someone's memory.

Mr. Hunter. An example of that was at San Onofre, in that inspection. The maintenance supervisor—and they had this informal system of trending, and the supervisor at the time we were there was assigned Unit 1 for years, and he was now working as of February, 1979, Unit 2, 3, also, and the management was in the throes of deciding whether to pull him out of Unit 1 and make him the Unit 2, 3 maintenance supervisor or remain as the Unit 1 supervisor.

All we could say, and we did in the report, was basically we considered it a weakness in that if the management decided to pull that man out with his many years' experience, it would remove that trend memory bank, if you will, and it would also remove him from the day-to-day operation of the plant. At that particular time, there was another issue, which was there was no one assigned to be with him; in other words, he did not have an assistant to take his place. It was a two-fold concern. But at that plant, as I indicated, we got into the plant right when they were going to make that decision, and we gave them our input. I couldn't tell you today what the impact of that was.

Mr. Galloway. Just by way of a summary-type question, what comes through this section is the informal nature of their tracking and their keeping on top of corrective actions that had been generated by vendors and NRC, et cetera. Is it even possible to be on top of all of those things by using an informal system?

Mr. Shafer. I don't believe it is possible. And this is where we could probably go into program implementation and find all kinds of noncompliance. That is my opinion. We didn't do that. We recognize the program, for what it was. They had one, but I am sure, I don't remember whether he said it was average—yes, he said it was average on both cases, and this is fairly normal, and I think you base it on one instance, where we identified one corrective action system, or management control technique, as being very poor at one facility. So, regardless, I think——

Mr. Hager. Your conclusion that Oyster Creek was average was influenced by the fact you found bad performance at other plants?

Mr. Shafer. That is right.

Mr. Gagliardo. Another plant in which really they had a less formalized corrective action system.

Mr. Hager. Which plant was that?

Mr. Gagliardo. Brunswick.

Mr. Galloway. That goes to the question I was getting at before concerning the use of the word average, rating on the curve, so to speak. Did you give any consideration to a straight grading-type system that didn't deal with the activities of other plants——

Mr. Gagliardo. Based on that particular inspector's judgment and his experience?

Mr. Galloway. As we had in college, A-B-C-D-F system.

Mr. Gagliardo. We are getting into an area now for which we have been highly criticized, the very fact that we are going in and doing appraisal of management control systems for which there is very little regulatory requirements. The regulatory requirements, the regulatory guidance, the standards and codes that are available to licensees talk about specific requirements that you have in a given area that address only very, very narrowly the management of that area; in other words, corrective action.

There are requirements for management to have a corrective action system. There are no specifics as to how that corrective action system is to be managed.

Mr. Galloway. My question is this: If I am an average student at a college where the students have an eighth grade reading level, my being average isn't really a badge of honor, is it?

Mr. Gagliardo. That is right.

Mr. Galloway. Is that, in certain areas, what we may have here in terms of the use of the word average?

Mr. Gagliardo. Yes, quite frankly, that is true. I think we recognize a need in PAT, and I hope that our management recognizes that, also, and I think that is true, because I was involved last fall in the development of a program we called the systematic assessment for licensee performance. Two of the objectives that we have in that program, first of all, to identify weak performance in a licensee, and, secondly, to upgrade that performance, and Vic Stello, the Director of I&E, has indicated that we have to try to bring everybody's performance up, not only if you have a grouping, and here are people who are below average and people above average; certainly the guy below average you have to get his performance up. But we in our organization should strive toward bringing everybody's performance up.

Mr. Galloway. A utility, in reading a section of your report, should not take comfort over the fact they were rated average in a particular category?

Mr. Gagliardo. That is right, and that is why we asked in paragraph 2, where we talk about the observation, we ask the licensee to look at the observations, especially those classified as weaknesses, to determine if they should do something about it.

Mr. Galloway. Just as a final followup on this, so that even though they were rated as average in a particular area, they could still have major problems in that area. Is that correct?

Mr. Gagliardo. That is correct.

Mr. Shafer. That is correct.

Mr. Hager. Could I ask you rather bluntly, Mr. Gagliardo, you just mentioned that you have been criticized, or there has been some tension associated with your effort to evaluate licensees. Am I correct in my impression, based on talking with other people in NRC and looking at a few documents, that there is substantial resistance within the NRC, resistance to identifying utilities that really do have problems across-the-board, utilities that could be characterized as weak utilities, the kind of evaluation you are doing now?

Mr. Gagliardo. I don't know that I would say there has been a problem within NRC as far as identifying licensees that have problems. The problem that we have is the way in which we in PAT appraise a licensee is based on the observations, and the observations—and we point out in our reports—that do not have a well-defined regulatory basis; some of them have some regulatory basis; many of them do not. They are our collective judgment of what a management control system should contain in this area, and we are evaluating the licensee against that standard, so we have been very much criticized for going outside the bounds of regulatory requirements and guidance and using the observations in that area for appraising the licensee manager.

Mr. Hager. It just seems to me that is the problem that we are focusing on here, and that is that it is not enough to discuss a utility's performance strictly in terms of the design and construction and the actual compliance items. It is necessary, really, to look at management, the adequacy of the management control system.

Mr. Gagliardo. I agree 100 percent.

Mr. Hager. There seems to be some resistance to looking at licensees with that sort of a focus?

Mr. Gagliardo. I agree.

Mr. Hager. Within the NRC?

Mr. Gagliardo. That is true, and every problem that we have seen, be it at TMI or any of the other incidents that occur which management has to get into and look at, and to try and resolve with the licensee, we find an underlying cause is inadequate management control. And we just, quite frankly, do not have the regulatory requirements or guidance to cover management of these areas.

Mr. Galloway. Is it even theoretically possible to reduce all of these elements necessary for the safe operation of a plant to regulatory guides? For example, in the area of turnover, it doesn't seem to me that it is possible to come up with a regulatory requirement concerning what is an unsatisfactory level of turnover.

Mr. Gagliardo. I agree, and that is going to be very difficult, but one of the things that we are going to try to do in PAT—and I hope that we do; if we don't do that, our efforts will have been wasted—and that is to take a look at these observations that we have and where we see problems, observations, weaknesses that are related to or generic to those licensees that are having problems in that area, we need to identify that to our standards people or our management to get either a change in the regulations or additional regulatory guidance or standards or codes to cover those types of areas.

And this is something that we are doing in our annual report; we are flagging things that we see that are generic to the licensees that we have looked at.

Mr. Galloway. Not everything can be reduced to a regulatory requirement, is that correct?

Mr. Gagliardo. That is correct. I don't think everything can be.

Mr. Hunter. One of the areas that we have run into—and I don't know if you will be getting into it—is say the lack of a good individual person, plant personnel, individual job description, functional job description, this is what he is required to do as a fire watcher, whatever the requirement is.

When you speak of turnover, certainly we don't dictate turnover, but we do dictate qualification and in certain cases requirements. When the turnover exceeds the rate at which they can handle by retraining people, they won't have qualified people to do the job.

If we ran into an issue, we would probably run into it from that direction, saying the lack of management control or the problem was because you had a maintenance supervisor who was not experienced and trained as he should be.

If we need to upgrade the qualification requirements to make sure that each individual assigned a position meets that position, we would probably go at it from that direction and recommend changes in that direction.

Excessive turnover results in lack of qualified people.

Mr. **Hager**. So you would suggest it would be possible, for example, to have a regulatory framework that would deal with turnover by establishing clear job descriptions and adequate qualification criteria for individuals placed in those jobs.

Mr. **Hunter**. It would be my opinion that is the way we would come at it.

Mr. **Hager**. And in that sense you can regulate——

Mr. **Gagliardo**. I don't know that I agree with that. If you have a licensee who recognizes for some reason, because of locale or whatever, that he is going to have a large turnover rate, if that licensee says, "I recognize I am going to have a large turnover rate at this facility," and he staffs up such that he has on board in a training status people who can be getting their qualifications such that as this large turnover occurs, and I now lose my maintenance supervisor, I have had a maintenance supervisor in training for the last six months who has gone through such and such a training program—the fact that I have a large turnover rate at that facility may not be a problem—if the licensee is prepared for that turnover; in other words, recognizes that we are going to have some amount of turnover, establish qualification levels for that position, and make sure that he has people constantly going through that training, bringing themselves up to that qualification level. So that the turnover when it occurs doesn't hurt him.

Mr. **Hager**. Right. The point being turnover *per se* is not the problem, but as you suggested, if it results in unqualified people, that it is a problem. That could be avoided.

Mr. **Galloway**. This discussion leads us to the next section of the report, training. Can you highlight that for us?

Mr. **Shafer**. Okay. We broke training up into two specific areas. There are considerable regulatory requirements regarding the training of licensed personnel, identified in part 55 of the code of regulations.

The concept of how well a licensee is training their licensed personnel was again considered average by Mr. Sinkule. He had one unresolved item in particular.

It related to the fact that the licensee was giving training sessions in nine particular areas, and giving only one test, or a quiz, if you will, which had eight questions, and felt that that met the requirement that they quiz the individuals on each area.

We passed that on to the headquarters office and subsequently received information back that that was not acceptable as a way of doing business.

Again, the word "average" with regard to these people applies in fact that this is pretty much what we have seen before. I think if you have read the response by the Oyster Creek people with regard to training, I think they are making a major breakthrough on training.

I recall there was one other place that had what was identified as a manager of training in the corporate office, that they really took it seriously.

Mr. **Hager**. One other utility or licensee you inspected?

Mr. **Gags**. Well, Brunswick had a corporate training manager, if you wish, but he did not have the type of overview that we would have like to have seen in an overall training function.

He ran a training center and supervised the training of the people that came through there, but he didn't have the overview of the overall training program that was being conducted on-site.

The only facility that I am involved in—and I was involved in a training inspection of some of the others—was Arkansas. I felt Arkansas was on the right road towards having the training organization at corporate level, which was going to provide the oversight of training over the whole facility and the corporate office.

It wasn't in place at the time that we were there, but they had developed that organization and were getting it going. That is the only place that I can recall where we really saw where a licensee had taken control of the training, recognized the weaknesses that they had in training, and were trying to do something about it.

Mr. **Shafer**. Let's jump to the nonlicensed training because that is where the biggest problems were identified.

This we found through the six facilities we have looked at so far, that this is prevalent, that very little concern is placed on training of nonlicensed personnel.

When you think that the thousands of dollars that are spent for an opeator to get his license, and to maintain that license, to keep his expertise up, you can turn around and hire somebody off the street and give him "on-the-job training," and put him to work on a piece of equipment that would equally prevent the plant from safely shutting down or shutting it down when it was unnecessary, it seems like it is almost ludicrous.

But this happens in many cases. In particular at the Oyster Creek facility they said we have on-the-job training. I said, "Well, how do you track that kind of training?" I found that they keep a copy of the work job order that the individual was assigned to do.

However, we also noted that there were two or three different names on the job order. We didn't know which one was actually doing the work and which one was maybe observing the work. We found that was unacceptable.

Mr. Galloway. Is it your point that nonlicensed employees have responsibilities that impact directly on safety?

Mr. Shafer. That is correct. Instrumentation and control.

Mr. Hunter. Valves, equipment, feed water control systems, maintenance of all of these things involve nonlicensed people.

Mr. Gagliardo. The three craft areas—mechanical maintenance, electrical maintenance, instrument and control.

The maintenance of the safety-related equipment in those areas is done by craftsmen who have had very little training. That is something that we are finding generic to all of the licensees we have inspected, and we are going to be addressing in our annual report.

We feel that this is an area that needs to be beefed up in regulatory requirements and guidance.

Mr. Shafer. I think this fits equally well with the engineering support groups at the corporate office. These people receive, if anything—they get a chance to look at the FSAR and some of the requirements.

We are not necessarily looking at their craft capability or expertise as an engineer, but we are looking for some kind of training with regard to site specific training, how familiar are they with what is going on out at that plant, are they familiar with the rules and regulations that we imposed on their particular area. We have not seen that.

Mr. Hunter. Also, the engineering group on-site, in daily contact with providing technical expertise to the disciplines, like mechanical and electrical, these fellows are involved every day. Their training might be that he has a B.S. at Washington University, and he has been on-site for three days.

Mr. Galloway. I take it from reading this section there was a definite morale problem at the plant, occasioned by employees not feeling they were adequately trained for their responsibilities.

Mr. Shafer. That is right. I can picture the individual's face in front of me when he was talking. He had spent 16 years at a motor pool working on cars. He had been assigned to the plant. He personally felt that he had been turned into a warm body for collecting radioactivity.

That is how he was learning how to do his work. He felt that he needed more training.

Mr. Galloway. Did he feel he was jeopardizing his health?

Mr. Shafer. He was concerned. I don't believe that is true because there are restrictions with how much radiation that an individual can get. So you have to separate the wheat from the chaff again.

But he was concerned that because of his seniority—they use the seniority rule at Oyster Creek—he could actually bump an individual who was well-qualified to do the work. If he only had five years in and this guy had 16, he can bump him out of a job he knows nothing about.

Mr. Hager. What functions was this individual performing?

Mr. Shafer. He was an hourly employee in the maintenance department.

Mr. Hager. You mean he would do mechanical maintenance on a range of valves, pumps?

Mr. Shafer. As a matter of fact, he was supposedly in training. He told me categorically he was not allowed to work on anything by himself. The licensee uses the buddy system until the employer feels he is capable of doing the job.

When I talked to the foreman and said, "How do you keep track of what this individual does, and whether this instant you feel he is capable of doing it himself," he again referred me to the job orders.

Mr. Galloway. In other words, were there workers there who had responsibilities that were safety-related, who felt that they were in over their heads, who worried, who did not feel they were qualified to do what it was that they were charged with doing in a safety-related area?

Mr. Shafer. None that I talked to. I could not say that was indeed the case.

Mr. Galloway. But it could be the case?

Mr. Shafer. It could be, yes.

Mr. Gagliardo. I think from my experience in past inspections, I think you will find that in most cases a craftsman feels that by the fact that he has been employed by the utility for ten or 15 years, and has been tearing apart pumps, or an electrician working on electrical circuit breakers, an instrument man working on an instrument, that he is qualified to do the job and that there should be no need for him to have to be trained in it.

They are used to working in an industry, a fossil plant, where, sure, they can go in and tear apart a pump, and if they make a mistake, and mess the thing up, when they put it back together and it won't run, it is not too much of a problem.

It is a problem to them as far as the availability of that unit. But they don't appreciate the fact that when you are working on a piece of safety-related equipment, that you are relying on for the safe operation and shutdown of that facility, that by them not having been trained, adequately trained on that piece of equipment, the potential for them making a mistake could cause a significant safety problem. They don't appreciate that.

Mr. Hager. Because they don't fully appreciate the distinctions between a nuclear and fossil plant in that regard.

Mr. Gagliardo. That is right. We have very great concerns about this nonlicensed training. We feel strongly in PAT that the licensee should provide better training to these people to insure that this equipment, which is being relied upon to protect that plant, protect the health and safety of the public, is indeed maintained properly.

Mr. Hunter. One of our major problems is the fact that if you go look at the requirements, like criterion two, appendix B, which is very general, it says you will train to obtain proficiency and maintain proficiency.

So, we have the charter to be there and look at their training and retraining for anyone performing safety activities.

The tech specs say you have to have so many years experience and then you can work there. If you look for guidance outside of the documents, as far as anything further than that—we will ask for some help, as IE, from our standards people, to try to put some meat in those requirements, so that IE can go out and inspect to a regulatory requirement.

What we are finding as a result probably of lack of guidance the inspectors go out and look, and without the appropriate guidance we really don't find them looking in that area.

Mr. Hager. Are you suggesting, for example, the definition of the word "proficiency" is inadequate or not clear?

Mr. Hunter. I think it is unclear when you—I have been involved in training. The first thing you do for anyone is to define his functional job description, what does he do. I have had a licensee go down through it item by item.

I said show me where you have trained him in those items. They cannot show. They say, "Well, he was with Joe Jones for five years, and Joe Jones says he is okay, so now he is in fact doing the job."

But if you go back and look, it really hasn't been identified well, and our guidance or regular requirements, job descriptions, isn't very well-defined, either.

Mr. Galloway. Mr. Shafer, do you have any concluding points on training before we move to the next area?

Mr. Shafer. No. I think we have said already we have found this as a generic problem with all the facilities we have gone to, as far as nonlicensed personnel.

Mr. Hager. Again, what seems to be a theme in this report, about the conduct of the licensee—page 50, observation 28. Your observation is to the effect that again management had been aware of the nonlicensed training inadequacies and at this point had developed long-term goals.

Mr. Shafer. That is right.

Mr. Hager. But it appeared that the actual implementation would be several years away. You called that a weakness.

Did the licensee offer any acceptable explanation for why it would take years to deal with this problem?

Mr. Shafer. No. It is recognized that it would take several years, primarily because an individual going into the craft—and this is related particularly to a craft training program for their personnel—it would take a couple of years for them to even get through the program once the program was set up.

What was stopping the setting up of the program was that they needed to build a new building.

Now, the work involved had progressed up to the appropriation of funds. They were negotiating with the union regarding this particular program. I think it was identified as TOPS. If you need that, I can get it to you.

Mr. HAGER. I recall a reference to that.

Mr. SHAFER. Yes. A-7 I believe it was.

Mr. HAGER. That is all right.

Mr. SHAFER. Station Training Administration Manual, provision. There, in the Station Training Administration Manual they had identified a need for very brief type of training; that is, training in the administrative procedures, those rules set up by management as to how something was being done, a review of procedures, design changes, and familiarization with the plant itself.

While this had been set up and looked like an acceptable way of doing business, we found that they had not done that. When they did do it, we found it was a scatter effect. They would have a training program where an individual who is off sick would not attend. Well, there was no make-up training.

The craft training program is several years away from what they were doing. The program was to improve the individual's ability as a bricklayer, a machinist, an electrician to such a point where he would be brought up to a competitive edge that industry could give him.

The other part of the training they had not addressed for these people related primarily to the site specific training necessary for that individual to work on-site. The craft training made them capable of going out to any plant, fossil or nuclear, within that organization.

But to come to the site, there are specifically other training programs that should be applied.

Mr. HAGER. And some of those, I take it, should not take years to implement. For example, one of your observations also, observation number 21, was to the effect that their general training for employees didn't include any familiarization with the use of anti-contamination clothing or simple tours to familiarize individuals with evacuation routes, the use of radiation monitors, the sorts of things that would enable them to work safely in the plant, and also to respond to an emergency situation in the plant.

Mr. SHAFER. That is correct.

Mr. HAGER. Those are the sorts of things that as I understand it——

Mr. SHAFER. Should not have taken long term.

Mr. HAGER. But had not been done.

Mr. SHAFER. That is correct.

Mr. GAGLIARDO. Can we take about a two-minute break?

[Brief recess]

Mr. GALLOWAY. Back on the record.

On the maintenance section, despite some very critical observations, I noted that there were no items of noncompliance here, Mr. Shafer. Would you explain why that follows?

Mr. SHAFER. Yes, sir. I think I can.

What I found here was in looking at 14 out of 15 jobs that were identifying what kind of work was taking place at the site—I found numerous noncompliance, failure to follow procedures, just a totally inadequate system.

I challenged the way they were doing business, and at the conclusion of the inspection, just before the conclusion, it was pointed out to me that management had made their own survey earlier in the year, in this particular area, and had come up with identical concerns, had identified indeed not only the way business was being conducted, but the morale problems, the lack of training, the whole problem if you will.

As a result of that, and the effort put forth with regards to the licensee's attempts to obtain the proper personnel, the monies necessary to get the work done properly, it was my decision to make the whole thing an unresolved item.

I felt, in looking at the more recent work that was being done on the job orders, that there was some improvement. I saw a reorganization take place—and it took place almost on the day that we went to the site, or the week before—which had indicated they were starting to move in the right direction.

Mr. GALLOWAY. Do you feel that was coincidental?

Mr. SHAFER. No, because they had had discussions, I guess, with the NRC, with regards to reorganizing and what they were going to do at least in the operational area, and had put in a technical specification change for the reorganization, and it was part of that.

No, I didn't feel—you see, we were required by the commissioners to look at the history of the operations. Therefore, we chose a 12-month period. We said we will look at the work that has been done in the last 12 months.

The majority of the problems that I found were in the early part of that 12-month period. As I approached the more current work that was being done, I could see improvements.

But what I could not see were the management controls that were supposed to exist in order to assure that these improvements were not only going to improve the program but were going to remain on the books to assure that the plant was going to be maintained at a proper——

Mr. GALLOWAY. You said that the utility itself had recognized, in fact had completed a report indicating, that they had problems in the maintenance area.

Was Region 1 also aware of the maintenance problems?

Mr. SHAFER. Not to my knowledge, no. In fact, when I became agitated because of the number of problems I was finding and reported accordingly to my management and headquarters, there was some discussion with regards to whether they should inform Region 1 of the problems.

We had no Region 1 representative out there at that time. They had performed an inspection on the maintenance area about two months before we got there, and they had given them essentially a clean bill of health in the area of compliance.

Mr. GALLOWAY. Yet you did a lot of work in the compliance area; in other words, you just didn't look at maintenance management, but you went a step further and looked at compliance in the maintenance area, in these 14 areas, is that correct?

Mr. SHAFER. That is correct. That was part of our charter again from the commissioners, to look at the history of it.

Mr. GALLOWAY. Was there any duplication between the work that you did in the maintenance area and the work that the Region 1 people had done on their maintenance inspection?

Mr. SHAFER. Very little. I found what had happened was the inspection of the maintenance area is conducted almost on an annual basis. If they have a good program, they can go to every 18 months.

In 1978 they conducted a maintenance inspection, and they had looked at all the records for the previous 12 months. And they said, not so hot, fellows. Essentially what they came down to was a couple of noncompliance and commitments from the licensee to straighten their program out.

They did not go back out and look at the program, to my knowledge, until August of 1979, which would be about a year later.

In August of 1979 I noted that the individual who was looking at maintenance looked only at the records from February, let's say, of 1979 to the present date. There was a small amount of overlap in that area because I was looking from October of 1978 all the way through their refueling outage.

When I found all the problems, I looked at the 1980 work and I noted they had started improving and that was part of my decision to make it an unresolved item.

Mr. GALLOWAY. Would you care to comment on the backlog discussed on page 85, the open items, some of which went back two and a half years? Is that unusual?

Mr. SHAFER. I thought this was exceptional for this organization. it appeared to be the worst case I had ever seen. But it is not unusual in the sense that there are some work projects that take quite a while to get done.

In this particular area, after I found all the job order problems, I went to the quality assurance department to see how aware they might have been of the problems, and I found that they had been identifying problems in their spot checks and surveillance and audits, that they had concerns.

However, again, these concerns had gone to management and once more we sit there with a corrective action system that was started and never finished, nothing was done with it, or that is what the appearance of the record shows.

So, I used that to again establish in fact that there was some validity to what my findings were. The final crunch, of course, came—as I stated earlier, the night before our major interview at the corporate office I was given this confidential report, this management survey that took place earlier in the year, and as I stated to you previously, this survey covered essentially every concern that we had, so that the licensee was aware of the problems.

Mr. HAGER. And the licensee had been aware for how long before your inspection discovered the problems?

Mr. SHAFER. Well, I am thinking the survey was started in May, so it would be between May to October.

Mr. HAGER. And yet your inspection discovered all the problems essentially that had been identified to management the previous spring.

Mr. Shafer. Well, it covered that time period when management apparently had gone on and looked and found those problems, and it covered up to May. It couldn't have gone any further than that.

Mr. Galloway. Having identified maintenance problems—in the utility, that is—is it incumbent upon them under NRC regulations to report such findings to the NRC?

Mr. Shafer. I don't know of any regulation that could be interpreted in that manner.

Mr. Hunter. The closest you might come to it—and you can look in Reg guide 1.16. It says if they discover a breakdown in administrative controls which could affect safety, they are required to report it. But that is all it says.

They would maybe have had to have some equipment destroyed or something, you almost would get to that point, but that is as close as I could come to it.

Mr. Galloway. Is there a need for a regulatory requirement that would require utilities to report such findings to the NRC?

Mr. Shafer. Absolutely.

Mr. Gagliardo. Yes, I think so. The regulatory requirements and the guidance with regard to reporting of events is just that. It is reporting events in which the licensee is not in compliance with technical specification requirements of what is called limiting condition for operations.

The only time that a licensee would be required to report failures of his people to comply with their procedural requirements would be, as Dorwin indicated, where they said that this indicated a breakdown of their control system.

Mr. Galloway. You mentioned the utility had described this as a confidential report. Is it unusual for utilities to have studies, documents, memoranda, et cetera, which they deem it inappropriate to give to the NRC?

Mr. Gagliardo. I was surprised when I heard about this, that it was "confidential." I don't know who they had withheld it from. Apparently—and you can correct me if I am wrong, Wayne—it was so confidential that even some of the licensee's managers were not aware of what was going on because it wasn't until the day before the interview that Wayne was provided with this report and the fact that such a study had been undertaken.

Mr. Galloway. Is it your understanding that if an NRC inspector tomorrow requested a copy of that report, that it would not be forthcoming?

Mr. Gagliardo. No. I think if he knew that such a report existed, and asked for one, the licensee would give it to him. My experience has been just that. But yes, there are occasions where we find where an internal audit has been done, or a licensee has had somebody come outside—contracted an auditor to come and audit their program, and they have not communicated the findings of that audit to the NRC.

Mr. Galloway. But yet they were not willing for you to have a copy of the report, is that correct?

Mr. Shafer. That is correct. They asked me not to. The reasons for maintaining the confidentiality, I didn't really ask for. I know I could have gotten a copy, either by insisting on it, number one, or two, going back to my management and going so far as to issuing an order or whatever it took to get a copy.

But that he allowed me to read it, and the whole team read it, I don't believe that was his primary concern. He was not trying to keep it from us. He might have been trying to keep it confidential until he could negotiate. You would have to ask him. I don't know what his reasons were for maintaining the confidentiality of it.

Mr. Hager. Mr. Gagliardo, you suggested there was the impression that even some of the other Jersey Central management people were unaware of the conclusions of this internal report on maintenance?

Mr. Gagliardo. That is the impression I got.

Mr. Shafer. Let me clarify that.

That survey was conducted by top level management at Jersey Central and Light. So when you start talking about which type of management, you might say first line supervisor was not necessarily aware of that report.

But it would be fair to say that the plant manager was aware of it, the operations manager, Mr. Sullivan, was aware of it. Certainly the quality assurance manager was aware of it, as he was part of the team. That they didn't have their own personal copy, I don't know, I did not ask that.

Mr. Hager. But in sum we are talking about an internal management study that discovered these extensive problems in the maintenance area, some six months approximately before you all came on the scene.

Mr. Shafer. That is correct.

Mr. HAGER. Notwithstanding the existence of that report, some of the first line supervisory personnel were really not familiar with the conclusions of the report and, in fact, the problems had not been solved by the time of the PAT inspection.

Mr. SHAFER. All the problems had not been solved, that is correct.

Mr. GALLOWAY. Had work begun in all of the problem areas?

Mr. SHAFER. Yes, if you want to identify the beginning of the work, of course, as appropriating the manpower and the money to get the job done.

Mr. GALLOWAY. Did you perceive there was a good faith effort to correct the problems that had been identified in this report in an expedited manner?

Mr. SHAFER. I perceived a good faith effort. I did not have the confidence that unless we locked them into a timetable to get the job done, that it would be done in a reasonable or timely manner.

I was not confident that there were adequate interim measures to prevent or reduce the impact of the problems that still existed.

Mr. HAGER. Pending their solution.

Mr. SHAFER. That is correct.

Mr. HAGER. Following up on that remark about your concerns that they might not adhere to an adequate timetable, on page 65, still, the middle of the third paragraph, there is discussion of the reassembly of a valve.

The statement is made here that the target date for corrective action was two and a half years after the issuance of the nonconformance.

Now, if I may, let me ask two questions.

One, in this particular case what sort of concern does that raise in your mind that corrective action would ever be that remote from the identification of a problem.

Two, related to that question, does the NRC have any regulatory means, any firm regulation which places limits on how the licensee sets these target dates for corrective action, or is the licensee really at liberty to essentially say for itself how long it is going to take to solve a problem once it is going to be identified.

Mr. SHAFER. I think the latter is correct. What we see is there are regulations regarding a corrective action system and the timeliness of repair or making corrections. But there is nothing that specific, and I think Mr. Gagliardo pointed out earlier that the regulations do appear to need tightening up in that area.

Keep in mind this valve was not capable of being repaired unless the plant was in a shutdown condition. It was planned to do it in the 1978 refueling outage. I don't recall the reason now it was not done. The reason they go to December 1979 is that is the day the next refueling outage is taking place.

Mr. HAGER. I don't recall whether this particular valve was a safety-related valve. But I take it there is nothing in the regulations that would have prevented this sort of approach being taken by the licensee with respect to a safety-related piece of equipment, is that right?

Mr. SHAFER. That is right.

Mr. HAGER. So that a safety-related piece of equipment, even though there was a problem with it that had been identified, could go unattended in the sense of rectifying the nonconformance for as much as two and a half years if the licensee saw fit to wait until it was convenient in terms of an outage to deal with the problem, is that right?

Mr. SHAFER. Well, I don't think so. I think what we have here now—let's say a piece of the emergency core cooling system—a malfunction there is pretty well tied into the technical specifications that the equipment must be operable before you can resume operations. Therefore, the priority on that goes way up—"Let's get that job done."

If we have no specific requirement regarding the clean-up system valves, that is probably the main cause as to why that would become a low priority problem. I have no problem with the fact that they made it a low priority job and did the higher priority jobs first.

The fact that it continues to exist, the longer it exists in this condition, in my opinion, then the priority of getting that repaired should be increased.

Mr. HAGER. And they did skip one outage when the work could have been done.

Mr. SHAFER. That is correct.

Mr. HAGER. Mr. Gagliardo, it is my understanding that the safety-related equipment could be dealt with in this manner, is that right?

Mr. GAGLIARDO. That is true. You have a technical specification requirement that says that the given piece of equipment has to be operable. Operability means that the equipment is capable of performing its design function in a normal manner.

Words to that effect. So that you have a situation where if you feel that you have got a problem with a piece of equipment that needs to be corrected, but you still feel that the equipment is capable of performing its intended function, there is no guidance saying that you have to say that it is then out of service or it is inoperable, and hence you can continue to operate with it.

So there is really insufficient guidance in that area, saying when do we have to say that this piece of equipment is inoperable and have to do the maintenance or whatever to fix it.

Mr. Hager. So, at present the licensee makes those types of determinations.

Mr. Gagliardo. Yes. Now there is a requirement on the licensee in Appendix (b)5, 10 CFR 50, which requires him to take prompt corrective action to identified problems. Yet, that is not defined either.

What is meant by prompt corrective action? That is open to interpretation on the part of the licensee and the individual inspector.

Mr. Hager. One final aspect of the Oyster Creek performance. Still on page 65, if I understand the comment in the next to the last paragraph on that page, what is being said is that the licensee did not have a system whereby the comparative significance of the items of nonconformance that had been identified was established; that is, the licensee didn't have a regular system for deciding how important a particular problem was and for pursuing it in light of that kind of an evaluation. Is that accurate?

Mr. Shafer. I think in reality I would have to say that the nonconformance system, NC/ACR program, was there to identify the problem. The problem that I had with it is it was ignored.

Mr. Hager. Ignored by management, licensee management.

Mr. Shafer. That is right, or let's say it was just put off.

Mr. Hager. All right.

Mr. Galloway. Do you have any concluding comments on the maintenance section, since this was your area?

Mr. Shafer. No, sir, I don't think so.

Mr. Galloway. What about that mention of the TMI as a contributing factor—you just mentioned that in passing I believe on page 68—as having exacerbated their problems.

Mr. Shafer. I believe Jersey Central was sending people down there to work on the TMI project. I also recognize that the effects of the TMI with regard to the latest requirements as to what is going to happen, manpower needs and stuff like this, is going to affect it.

I believe I was talking in that particular paragraph about the morale problem. Let's get right down to the button. I believe it was a money problem, availability of money. They were making an effort at the time to appropriate the monies.

Mr. Galloway. Is it your understanding that the utility did not have the money or that the utility was reluctant to define funds for this area?

Mr. Shafer. When we talk about money and morale problems, that gets into a very tough—it depends very much who you are talking to. I believe in Here I identified the morale problem as a result of communications, inadequate corporate management support for manpower needs.

If the plant manager tells me, "I have been trying for years to get manpower over here so we can do our job correctly, and the corporate office is not listening," one obviously looks at whoever is holding the purse strings to be the primary fault of that not being done.

Mr. Galloway. Is there a paper trail in terms of the request by plant people for additional personnel? Did you review that?

Mr. Shafer. No, sir. That generally would fall under the licensee's paperwork with regards to running their program. It would not be made available to me.

The plant manager might discuss it as part of the problems he has had trying to get a job done. But I would never be privy to their budget or cost program or analysis, or whatever they have available. I have no regulatory basis.

Mr. Hager. One final point in this section, back on page 67. Two observations, observations number 2 and 7. Taken together, those observations show that the licensee apparently maintained no equipment history file which would indicate past performance of the equipment in the plant, and that there was no trending analysis of any maintenance performed on plant equipment, so that changes in equipment performance or emerging problems with a particular piece of equipment could be detected.

Is that a fair statement?

Mr. Shafer. That is right.

Mr. Hager. How unusual would you find that to be in the industry, based on your experience?

Mr. Shafer. I have seen much better programs-trending of equipment. Primarily it is a tool not to rely on memory, as to first-line supervisory memory, what has been repaired or how many times, but in fact here I felt required to identify the fact that this individual was not aware he had a history file. They did have one, but it was poorly kept up and not maintained. We go back to the manpower problems.

Mr. Galloway. I guess the next section is Q.A. In the interest of time, would it be helpful to summarize your findings in that area?

Mr. Shafer. Mr. Hinckley was the individual who looked at the quality assurance area. I don't want to put words in his mouth, but I think we found that the site quality assurance organization had been doing the job. Unfortunately, as that information was transmitted to the corporate office, for some reason it just disappeared. It did not disappear; it was not acted upon very well.

Mr. Hager. For the sake of clarity, when you say when it reached the corporate office, are we talking about just Jersey Central, or did you come across instances where it was your impression that GPU played a role in whether or not problems were acted upon?

Mr. Shafer. No, sir. I think I reported in my report to the Commissioners with regard to the GPU's input at Jersey Central, and I think it was strictly contractual, and the regular bidding system, that Jersey Central Power Light management, from Mr. Finfrock on down, were the people who ran the plant.

Mr. Hager. The critical finding in this section, I believe, is the first item of noncompliance on page 72. The gist of that appears to be that target dates for corrective action for problems that were identified were not always established within the 10-day period within which target dates are supposed to be established. Furthermore, once some sort of target date was established, items frequently were not dealt with by those target dates, and the particular finding you have here is that a September 1979 review of their open nonconformance and corrective action items identified 143 outstanding items. Out of these, 71 were overdue for establishing a target completion date, and 29 target dates were past due.

Could you give us your feeling about that sort of performance violation?

Mr. Shafer. Yes, sir. Once again, we look at the program, and we find that the basic requirement is there, imposed by management. We find then the people at the site are reporting these nonconformances, or they would not have 143 of them open. These nonconformances then go to management and when they get to upper management, again, as I stated before, and it is what I based my opinion on, they were basically ignored.

If there was action that was promised, it might not have been completed. It is one of tracking all the concerns that are identified. How long, and I guess the bottom line here is, how long is a good Q.A. inspector going to go out to that site and find relevant issues and problems and report them to management, if management doesn't act on them?

Mr. Hager. Because that Q.A. person is going to realize that is the case.

Mr. Shafer. He has to.

Mr. Hager. Thereby taking away the incentive?

Mr. Shafer. That is right.

Mr. Hager. Did you get any evidence from talking to Q.A. people this is what was happening? Their morale was going down, or their incentive to do a good job was diminishing?

Mr. Shafer. The supervisor Q.A. was getting ready to leave the site at the time of our inspection. He agreed to stay on until we left. Whether he left or not, I don't know.

Mr. Hager. Did he express to you or Mr. Hinckley the sort of dissatisfaction that you are implying here?

Mr. Shafer. No, sir, I don't believe he did. I simply stated, as an example to you of when you do have good quality people out there trying to do a good job, they are not going to stay that way if nobody pays attention to them.

Mr. Hager. Turning again to the NRC's regulatory powers or abilities, can you help us to understand how it is that a situation like this is allowed to continue? We have a situation, apparently, where the licensee, as you said, essentially ignores the fact that there are problems in its facility that need to be rectified. How does it come to pass that the NRC doesn't deal with it?

Mr. Shafer. I think you are asking me to make a judgment as to what the regional office has done, if they did recognize it, and I really can't do that. I think they owe you an answer on that.

Mr. Galloway. It seems to me that almost as standard procedure when an inspector showed up, he would ask for the list of outstanding noncompliances. That is a sort of way to start an investigation, isn't it?

Mr. Gagliardo. It is a requirement, also, of a quarterly module or inspection procedure in review of a plant operation that the inspector review the nonconformance reports or whatever the licensee calls them, the corrective action reports, the reports of the corrective action system, and that is required to be reviewed quarterly.

Mr. HUNTER. There is a requirement that the project manager, or I.E. inspector at the resident inspection program you might have; it is more frequently—monthly, or whatever.

Mr. GALLOWAY. The certain modules, then, have to be performed at various intervals. Do the regional offices maintain a log of their progress in meeting these inspection requirements?

Mr. GAGLIARDO. Yes, it is reported and maintained in a computerized system, tracking the modules, the status of the modules, the percentage completed and manhours devoted to it.

Mr. GALLOWAY. Is that written up in narrative form and supplied to headquarters every six months or a year?

Mr. GAGLIARDO. It is not a narrative form, but it is a listing of the module, the percentage completed, when it was inspected, the percent completed, the number of hours devoted to that and any noncompliance that was identified in the inspection of that.

Mr. GALLOWAY. Does that same computer sheet list the requirements in terms of using that module?

Mr. GAGLIARDO. No. We had at one time a system that was called a module tracking system, which listed all of the modules, the requirements and then where we are at. Now, the only thing that you have is a list called the 766 file. The 766 is the form that is used to report and track these things. That file just lists the modules that have been performed for the individual inspections, so it is then up to management, regional management or headquarters management, whoever is following this, to look at the modules that were completed, when they were completed, to see if the program has been implemented.

Mr. GALLOWAY. Is the NRC able to tell you, and do they routinely review, these as to the completion of the various modules for each operating plant in the country?

Mr. GAGLIARDO. Do they——

Mr. GALLOWAY. Do they tell you if they are on schedule, 10 percent behind, 6 months behind; do they know? How is this organized?

Mr. GAGLIARDO. When we had a module tracking system, that was reported. To my knowledge, it is not being done now, and maybe you gents can correct me.

Mr. HUNTER. It is at the section chief and branch chief level as far as I know, in setting up their schedules on what should be done.

Mr. GALLOWAY. This module tracking system seems to me to be an invaluable management tool. Is that correct?

Mr. GAGLIARDO. It could be a very valuable management tool, but there were problems with that management tool. First of all, the inputs were being made by the regions through the reporting, using this Form 766 on the inspection report. That form was then taken by people in headquarters and entered into the module tracking system. There was no adequate verification that the data had been entered in there correctly, so you got into a situation where the module tracking system was not really representative of what indeed had been done, and it became such a pain in the neck, if you wish, for management, that it was finally abolished; but, yes, realistically I think you have the potential for providing management with a good tool if you get a system like that that is properly set up.

Mr. SHAFER. This is what he is talking about, a computer printout for the last three years on the Oyster Creek facility.

Mr. HUNTER. I would like to point out that part of the assessment that PAT did on Oyster Creek will specifically identify that problem because, in fact, our assessement showed that certain things had not been done and the memo to our management just stated the facts; we would then assume that they would look at those facts and say, hey, maybe we ought to evaluate this particular item, this module, why wasn't it done.

Mr. HAGER. Certain modules are not being done at Oyster Creek?

Mr. HUNTER. It is part of the assessment; there were some modules—that doesn't mean there are reasons not to do modules; okay. All I said is that our tracking system and our assessment would identify that, and since a module, 50 percent and marked complete, our records would not indicate to Wayne or I why it wasn't complete, not that the computer program couldn't do that, but the question was okay; it is not complete. These were not complete, and somebody might have to answer that question. Maybe the branch chief could do that.

Mr. HAGER. Let's look in parallel fashion to the question of tracking open items of noncompliance. Once the inspections have occurred, once noncompliances have been identified, does the NRC currently have the in-service system for clearly churning out where a plant stands at any point in time?

Mr. **Shafer**. Each regional office has its own technique for doing that.

Mr. **Gagliardo**. It is not an I.E.-wide thing; it is the responsibility for the individual region to follow it up, and each region does it somewhat differently, although a number of regions now have gone to a computerized system, an outstanding items list, which they list the status of noncompliances, deviations and unresolved.

Mr. **Hager**. Does Region 1 have the ability to pull that information?

Mr. **Gagliardo**. Yes.

Mr. **Hager**. So at any point they should be able to see where Oyster Creek stands in terms of it having resolved or not resolved——

Mr. **Shafer**. Yes, sir. When you get a copy of the assessment, that was one of the tools I used to evaluate what they were doing.

Mr. **Hager**. Are there any trigger points where if that computer printout, whatever form it takes, if that indicates X-number of outstanding items of noncompliance for Y-weeks or months, some trigger points where action then is taken?

Mr. **Gagliardo**. Not that I am aware of.

Mr. **Shafer**. A trigger point exists actually on the inspection report, itself. There is a certain numbering system that is applied to noncompliance, whereas a violation would be considered 100 points automatically and requires action on the part of management or an assessment as to whether action should be taken, or what further action should be taken. Infractions are identified as having 10 points the first time it happens, and then it increases if it is a repetitive offense, such that an infraction ultimately could become equal to a violation.

Mr. **Gagliardo**. But that is a trigger point for taking escalated enforcement action against the licensee, and I think you are asking is there a trigger point for when they get X-number of outstanding items that are past some point of being resolved or corrected, that management, regional management, or I&E management says we have a problem here with this licensee.

Mr. **Hager**. Yes, that is right. It is analogous to the banking system, where, as I understand it, the Comptroller of the Currency does have a regular list which amounts to a problem list, problem banks. That list is updated periodically, and it reflects the banking regulatory officials' judgments that certain banks cumulatively have problems, for whatever reason. I am looking for whether or not the NRC has a regulatory approach with respect to the licensees.

Mr. **Hunter**. On-site, every two years, every six months, the project manager, the project inspector and his section chief, and each region is different, but they evaluate the licensee, his noncompliance, that he had that year, LERs, that type of thing. And establish performance, but if the inspector didn't say I am having a real problem, that might not come up, but they are assessed on an annual basis, but not necessarily looking at outstanding items.

Remember, if you have noncompliance and they make a commitment date, like I am going to fix this in 60 days and they don't do it, that probably is another noncompliance of identical—it may be the inspector has the mechanism to double-cite or cite additionally against Criterion 16 of appendix B—failure to take corrective action—and we have done that. There are mechanisms for that, but we don't track that, that I am aware of.

Mr. **Shafer**. I think the outstanding item list as presented to you is primarily a tool for management to follow how well the inspector is doing his job in closing out items that have been found in the past and tracking those items that remain open.

Mr. **Hunter**. An OIL would include many more things than noncompliance. It might be a weak area that PAT identified and then the inspector was going to follow it up. He might decide to enter that into his OIL.

Mr. **Galloway**. So we can be sure to cover the report, two major items are left: radiation protection and radiation waste.

Mr. Shafer, do you think it would be helpful for you to add anything to the report on those points?

Mr. **Shafer**. No, I think not. I believe Mr. Blaine Murray will be the man that you want to talk to on the very technical area of those two points, if you will, and recognizing that the problem was identified by the regional office, a civil penalty was issued, our report came out and reviewed it, and that is where it stands. I think he did a good job on it.

Mr. **Hager**. One question with respect to that, could you discuss for us at least briefly what you believe Mr. Murray and the team's conclusions were in this area of radiation protection? Again, if you take the whole section, I think what comes through is the feeling that in a number of respects management was not paying adequate attention to the workplace safety, the safety of the personnel in the workplace: Such things as the ambient radiation monitoring, and there are several specific examples. But what comes through is inadequate management attention to the safety in terms of radiation protection, and so forth.

Again, perhaps trying to get a feel for how this Oyster Creek performance stacks against the industry, can you make some comparative statement for us based on your experience?

Mr. Shafer. I have not looked in the rad protection area. We had rad as a specialty with the organization separated from the operational aspects, and I could not comment on that.

It is very important to recognize that the Region 1 effort was in progress. The total number of concerns they had were addressed by the licensee. Whether they were adequately addressed or not is a decision Region 1 has to make.

The majority of the findings that our inspector found at the site was in addition to those other areas, and that gives one the impression that the licensee has a tendency to put the old Band-Aid on, and by that I mean simply if we say number one, you are not doing this and this, then they will start doing it, but in reality we look at it and when we find problems, we are saying management controls, we want you to look at the whole picture and see where else these problems might come up. I would have to say that might be the problem in this case.

Mr. Hager. One specific thing I think you would be able to comment on. How significant is it on page 93, Observation No. 16, where you point out that the radioctive hot spots are present throughout the plant because of contaminated pipe drains and floors, and you also observe that the feasibility or evaluation of the feasibility of dealing with these contaminated areas had not been conducted.

How significant is it that there are these hot spots in areas where workers are regularly working?

Mr. Shafer. When we talk about ALARA as low as reasonably achievable, this type of problem comes into effect. Can those hot spots be removed, and how many are you going to allow to exist before all of a sudden the background becomes so hot that the individuals can't get in there. The feasibility of removing or reducing them is important because if they didn't look at it to begin with, it is never going to go away. If they look at it and say we can't do anything about that, we have to rope it off or line it with some lead, or whatever we have to do, we will do to protect our workers, and the worker is obviously equally a member of the public, I guess the argument for ALARA would come in equally well for a worker.

Mr. Galloway. Does the union have any concern in the area of worker safety? Have they been active? Do you know? Do they have any expertise in worker safety?

Mr. Shafer. I talked with the union steward, also a member of the workforce over there. He had some concerns; he wasn't very specific in what they were. I could only suggest that you talk to those representatives to find out if they have any.

Mr. Galloway. I think it might be helpful to get maybe some concluding observations concerning the report and maybe the licensee's overall performance.

Mr. Hager. I think so, definitely, particularly in light of this response now. We do have the licensee's response before us. You gentlemen have considered it obviously at length and have responded to it; that is, in terms of talking with Region 1 about what should be done about it.

We would like to know your opinion of the licensee's performance historically, up through the moment when you made your findings last fall, and subsequently based on its reaction to your findings.

Mr. Shafer. To begin with, the historical effort that was performed by the licensee has to be given to you by the regional office. You could ask yourself if the plant has been operating for 10 years, how can it possibly have this many problems 10 years later, when the Performance Appraisal Branch comes in? It might be very easy to look at—don't forget this was a 6-man team that went in there. We worked nights; we banged heads; we drew everything together, and maybe that is what helped us find our concerns.

How well have they responded since the issue was brought to their attention, and officially the issue was not brought to their attention until January 4, however they were fully aware of our findings before we left the site in November.

Mr. Hager. Because of the exit interviews?

Mr. Shafer. That is correct. The details, of course, went into the inspection report, and the February 20th letter, the licensee has had that, then, for approximately a month and a half, and I really don't know what progress has been made. You can read it in their report as to what steps they have taken, but it looks like it is going to be a while before they get back on their feet.

Mr. Hager. In your meetings with the Region 1 personnel, did you indicate that this document from Jersey Central presents an acceptable program of dealing with the problems that your team found, or did you suggest more needs to be done in some respects?

Mr. Shafer. We intend to send them a memo with regard to that particular meeting identifying our concerns, and we did identify them verbally to Region 1 people. They made no commitment as to whether they would act or not on them. There was a concern relating to a particular item of noncompliance for which the licensee had concluded in their response that noncompliance was correctly stated, and there appeared to be an effort on Region 1's part to drop the noncompliance. We have opposed the dropping of any of the noncompliance and so stated to the regional office.

Mr. Hager. What was that item of noncompliance?

Mr. Shafer. I believe that was Item H. It related to the fact that the licensee had failed to perform an audit of the training department once every year. It was noted that they had performed two audits in a 3-year period, and that is where the noncompliance comes up.

Mr. Hunter. It is Section D.

Mr. Hager. We are familiar with that.

Were there any other major suggestions that you had for Region 1 about how to respond to Jersey Central's position?

Mr. Gagliardo. I have a comment I would like to make on that. I would like to back up a little bit and give my overall impression of the licensee and what this report means, and what he is doing.

Again, looking at the areas that we had problems with, the area of fire protection, namely, the construction efforts ongoing bringing in the new fire protection system, the non-license training, the in-service inspection, the problem we had there with their program, the maintenance area, the quality assurance audit area, and all the corrective action that was outstanding that hadn't been done, the radiation protection area, and rad waste area for which a lot of effort has been ongoing by the Region 1 identifying the problems and, as Wayne had indicated, had been a Band-Aid-ing approach by the licensee.

I think when you take a look at all of this in total, it points out to me the fact that licensee's management has not provided the type of overview of that plant's activities that we would like to see. And that their approach to correcting problems that had been identified previously was, as Wayne put it, a Band-Aid-ing approach. We look at a problem identified and they jump in and correct that individual problem, rather than backing off and looking at what is the contributing cause to this type of problem. What do I need to do to correct the cause and prevent further recurrence?

I felt that the major comment that I made with regard to the licensee's response to this is that—basically his response was good in the corrective action he was going to take to correct those items of noncompliance. I felt that my major comments were that he had not in all cases taken a look at the generic implications. In other words, when we had an item of noncompliance that we said there was something wrong here, he had not looked into that area to see if this was a generic problem; that was just an indicator of a generic problem, and looked at the big picture to see if the problem existed throughout that area, and, if so, what action do I have to take to prevent this thing from recurring.

Those are my overview-type comments about the inspection and about the licensee's response to the corrective actions.

I think the response that he made with regard to what he was going to do with the areas that we identified as being poor, he has put in there some good words of what he plans to do. If he indeed does that, and establishes programs to cover those, that is fine.

It is very easy to say, hey, we are going to do this, this, this, and this, and that will correct it, and that is true. If he does this, this, this, and this, that will indeed correct the weaknesses in that area, but if he only does those as a result of saying to a departmental manager or supervisor, this is what I want you to do, and that guy does it, it corrects the problem right now, but unless he makes it a part of their program, their written program to get it done, when that supervisor that he has told to do it orally, leaves, it is no longer going to be done.

So the concern that I have is that these commitments he made have got to be part of a formalized program to ensure that it is going to be done from now until they shut the plant down, whatever.

Mr. Hager. Does Region 1 share your attitude in that regard?

Mr. Gagliardo. These are comments that were made to Region 1. Region 1 did not argue with our position on that, nor did they indicate that they were going to request the licensee to do that.

Mr. Hager. Bearing in mind what your report has demonstrated about past licensee performance in dealing with these problems, are you satisfied that the timetable, total timetable, that emerges from this document is adequate?

Mr. Gagliardo. We had some problems with the timetable, the timing of those corrective actions. The licensee saying that he was going to write a new procedure some five months down the road, we didn't feel was acceptable.

Mr. Hager. Let me point out one in particular to you on page 8 of the Jersey Central response with respect to the matter we have discussed at some length, the outstanding items of noncompliance.

Mr. Gagliardo. September 1, 1980.

Mr. Hager. Yes, as I understand it, they are saying it will take them until September 1, 1981.

Mr. Shafer. Even Region 1 discussed that with them.

Mr. Gagliardo. Region 1 has gone back to the licensee, according to what they told us Tuesday, and the licensee will have taken action to correct safety-significant items by May of this year, but they recognize that there also are some items on it which are janitorial-type items, not safety-significant items, which won't be corrected until this date.

Mr. Hager. But, as I understood this response initially, they were merely saying that they would, by September 1, 1981, some 18 months away, revise and upgrade their procedure for deciding which problem areas were really important, and which were comparatively less important. Is that right?

Mr. Shafer. That is correct.

Mr. Hager. Which is not a commitment to solve the problem.

Mr. Shafer. That is right. That is not acceptable.

Mr. Galloway. How would you characterize the response of the utility on that point, Mr. Hunter?

Mr. Hunter. I would characterize it as very naive and unresponsive.

Mr. Galloway. That they haven't learned?

Mr. Hunter. They have not learned very much.

Mr. Hager. Given all you gentlemen know about this licensee, how comfortable are you with the prospect they are going to be running this reactor?

Mr. Shafer. Not comfortable. I don't know what that really means.

Mr. Hunter. I would indicate from our viewpoint, and the spectrum that we looked at, and the depth that we looked into these functional areas, and if we get the appropriate corrective action and the commitment dates are reasonable, the interim corrective action is reasonable; then the NRC would say that the licensee would be able to operate within our program as it exists now.

Mr. Galloway. Do you think it is reasonable to expect they can take the appropriate actions by the end of this current refueling period?

Mr. Shafer. No, sir.

Mr. Galloway. Mr. Hunter?

Mr. Hunter. I kind of agree with Wayne; I doubt they can. We would be looking that they would take the appropriate interim actions and corrective actions to make sure that during the interim period that they would be able to operate.

Mr. Galloway. Do you think that is possible, Mr. Shafer, to take the interim measures to prevent the sky from falling prior to full implementation?

Mr. Shafer. Yes, I think that is possible.

Mr. Hunter. I might clarify that to say if there is a safety-related activity, that the review of all the procedures needs to be completed, and just by the numbers they can't review all of them. That doesn't mean that they can't put in a temporary review path on every safe-related maintenance activity that would, in fact, cause a review to be done at second-level management until they, in fact, review their procedures and get their administrative controls to where they want them. That type of interim is what I would look for.

Mr. Galloway. I have a final question. Should there be any sanction involved for their failures to date?

Mr. Shafer. That is a management decision from the headquarters; the enforcement organization looks at and makes a decision, what sanctions would be involved.

Mr. Galloway. Do you think a sanction would have a salutary effort on other utilities?

Mr. Shafer. Possibly.

Mr. Gagliardo. That might be the only thing I think it might achieve. I don't know that a sanction such as civil penalty necessarily awakens an individual licensee. Quite obviously you have a problem just by the fact that you have identified problems that lead to the sanction. Whether that sanction awakens that management to the fact that they have a problem, they do something about it, I really don't know. And I have a question in my mind.

Mr. Hager. Is a sustained shutdown more effective?

Mr. Gagliardo. I think that would be more effective for that individual licensee.

Mr. Hunter. My comment that I would make is exactly what you said. We read the letter, and we were very concerned about the response, and our response back, because an order was not issued, a civil penalty was not issued; so we read the letter very closely. They respond within 20 days, okay; they have to have this mangement meeting with Region 1, and basically we said we want to be involved because we wrote the report, and then the bottom line was you can't start up until after we agree with these corrective actions, and we said, hey, we need to be involved, and if we can get the corrective actions, then they could start up.

If, in fact, the corrective action takes four months, or three months, and they can't start up, that is the ultimate civil penalty; that is half a million dollars a day.

Mr. Galloway. Who has the ultimate responsibility for deciding whether they should be allowed to start up, the region or headquarters?

Mr. Hunter. It has been escalated to headquarters already, but it has been kicked back to the region, based on the meeting.

Mr. Gagliardo. I think that the letter that Vic Stello sent to the licensee indicates that they have to respond, indicate what they are going to do. Have a meeting with Region 1 before they start up implies to me that if Region 1 finds that response to be acceptable, and has verified whatever action can be verified at this point, that the licensee can go——

Mr. Galloway. So headquarters has not indicated they will review the region's determination?

Mr. Gagliardo. No, and, to my knowledge, I don't see any plan for headquarters or PAT to be required to review the licensee's corrective action before he is allowed to continue power operations.

Mr. Hager. From what you now understand of Region 1's attitude with respect to Jersey Central's plans, are you satisfied that your concerns are going to be met before resumption of power generation at Oyster Creek?

Mr. Shafer. I think the onus is on Region 1 now. We have made Region 1 aware of our concerns, and we have to see the final outcome of that meeting.

Mr. Hager. But at this point, as Mr. Gagliardo just suggested, you apparently will not have a clear mechanism for stating your opposition should you be opposed to the final outcome; is that right?

Mr. Gagliardo. That is correct. If our comments are not accepted by the region, I don't see anything that would prevent the region from saying to the licensee, you can go back up.

Mr. Hunter. All we have is a memo written that says we have made these particular suggestions.

Mr. Hager. Let me ask one final question that goes more to the industry. What obviously falls out from the numbers that we are confronted with here is that your group has thus far only completed some six inspections. You have indicated some of the other plants that you inspected have significant problems; in some cases you have indicated in certain areas other plants had more problems than Oyster Creek.

Mr. Gagliardo. I wouldn't say more problems, but the same problem. Or may have had a problem in an area where at Oyster Creek we judged that area as being average or good.

Mr. Hager. You have also said, obviously based on all the discussion today, that you believe this particular licensee had a number of problems and, in fact, the problems have been sufficiently great that you have taken the group position that power generation should not be permitted to resume unless some of these problems are resolved in a timely fashion.

Mr. Gagliardo. That was not the Performance Appraisal Branch's decision; that was a decision made by headquarters management.

Mr. Hager. I understand that.

Mr. Gagliardo. Of which we are supportive.

Mr. Hager. Exactly. That is a decision you support and agree with.

Having said all of that, and realizing how few of the operating reactors you have looked at, what does this tell us about the possibility that there are other licensees out there that have similar levels of problems?

Mr. Gagliardo. It tells me that I think PAT staff ought to be significantly expanded, and be given a charter to go out posthaste and look at other licensees.

Mr. Galloway. My final question goes to whether the Commissioners, do you know whether they are aware of your activities in general, and are they aware of your activities in terms of Oyster Creek?

Mr. Gagliardo. We have given the Commissioners the report with Vic Stello's letter that summarized the report and what was going to be done. The Commissioners have also received copies of every management appraisal inspection report that we have done. We have sent a copy to each of them. So if they have looked at that, they are aware of it.

Mr. Galloway. I take it you have not briefed the Commissioners on your actions to date?

Mr. Gagliardo. The Commission was briefed on what PAT was going to be doing last year, I think in June of last year. That briefing was held around budgetary time, about what the Performance Appraisal Branch was doing in the area of management appraisal inspections and program appraisal inspections. They have not been briefed as to what we are finding, nor have they been briefed of the details of our methodology.

Mr. Hager. One question. I realize it would be beyond the province of your inquiry, as such, but did you discover any evidence or any information which would give us some sort of theory or some understanding of why the Oyster Creek management, Jersey Central, has not performed in a way that would have avoided these problems? For example, is it a concern with cost?

I am asking if you found any evidence.

Mr. Shafer. I found no evidence or explanation in that area.

Mr. Gagliardo. I haven't seen any.

Mr. Galloway. Do any of you gentlemen want to add to our record? Mr. Hunter?

Mr. Hunter. Just a comment, again, to your last question. Oyster Creek, for instance—and they are not alone in the industry—uses a Band-Aid approach, and that indicates that they will do whatever the NRC tells them to do, and a lot of the industry tends to be that way. It would appear in a case like Oyster Creek, or some other plants, when we start identifying problems, the NRC should get involved in those facilities very early, expand the inspection immediately, expand it and build the Band-Aid; if they want to put Band-Aids all over the plant, then we should escalate our enforcement very quickly and perform a complete overview or review of the way the management is functioning. PAT may or may not be a part of that. It shouldn't have to be. Our regions can do that.

But it seems to me if we don't jump in and explode our inspection effort and identify the problems, they will take the Band-Aid approach. That might be a way to improve the overall average, if you will.

Mr. Galloway. Mr. Shafer, do you have a concluding remark?

Mr. Shafer. No, sir, I don't think I do.

Mr. Galloway. Mr. Gagliardo?

Mr. Gagliardo. My concluding remark I made a little bit ago, which is I am quite biased towards this type of inspection effort, and I see a tendency by the fact that the PAT numbers are dwindling, and there is a lot of competition for the people. I would hope that management sees, as I do, a strong need for this type of effort at all licensees as soon as possible and get behind PAT as far as the staffing of it and getting us out to doing this type of effort vital to this industry.

Mr. Galloway. While we are still on the record, I would like to thank you gentlemen on behalf of Chairman Moffett and other subcommittee members for your cooperation and participation here today.

Thank you.

[Whereupon, at 3:15 p.m. o'clock, the interview was concluded.]

APPENDIX 3

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QUALITY ASSURANCE PROGRAM

MANAGEMENT REVIEW

CONDUCTED FOR

JERSEY CENTRAL POWER AND LIGHT COMPANY

(JCP&L Purchase Order No. 26185)

SEPTEMBER - DECEMBER 1979

Reference: NPC - 2435-A

January 31, 1980

nuclear power consultants, inc.

11300 Rockville Pike, Box 11
Rockville, Maryland 20852

301/881-8161

January 31, 1980
Reference: 2435

Mr. David P. Gaines
Manager, Quality Assurance
Jersey Central Power & Light Company
Madison Avenue at Punchbowl Road
Morristown, New Jersey 07960

SUBJECT: QA Program Management Review
JCP&L Purchase Order No. 26185

Dear Dave:

I am enclosing four (4) copies of our final report on the Management Review which we performed for you under the subject purchase order. This report, NPC-2435-A dated January 31, 1980, has been organized to satisfy several different objectives. Section 2.0, Executive Summary, is intended to meet the desire of your General Office Review Board for an "overall evaluation of the quality program" and specific "recommendations for management guidance" (see GORB-217 dated 2/10/78). Section 3.2 includes our findings and recommendations with regard to the overall evaluation of the QA Program. Section 3.3 deals with our specific assessments of various segments of the program as delineated in our original proposal.

As you will note, there is some duplication between the discussion of the overall evaluation of the Quality Assurance Program and the sections discussing specific areas in which the review was actually subdivided and conducted. This duplication is a result of overlap between discussions which group programs having similar management characteristics (effectiveness, efficiency, etc.) and grouping programs which are related technically.

Submittal of this report completes our work under the subject purchase order. We are pleased to have been of service and would welcome an opportunity to work with you again soon. Thank you very much.

Sincerely,

NUCLEAR POWER CONSULTANTS, INC.

JV Neely

James V. Neely
President

Enclosures

P.S. I will call you to discuss return shipment of your documents which we borrowed to aid in the performance of the work.

QUALITY ASSURANCE PROGRAM MANAGEMENT REVIEW

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* *

Review Team:

J. V. Neely
H. E. Baumberger
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Approved: J V Neely 1/31/80
J. V. Neely, ~~Lead Reviewer~~ (Date)

QUALITY ASSURANCE PROGRAM MANAGEMENT REVIEW

1.0 INTRODUCTION, PURPOSE AND SCOPE

1.1 Introduction

The Jersey Central Power and Light Company Operational Quality Assurance Plan specifies that the Vice President-Generation will conduct a management review of the effectiveness of the Operational Quality Assurance Program at least once every two years. It further requires that the results of this management review be documented and submitted to the President-JCP&L. In fulfilling this requirement, Mr. I.R. Finfrock, Jr., Vice President-Generation, utilized the services of an independent consulting firm. This report describes that review conducted from September through December, 1979, for Jersey Central Power and Light Company by Nuclear Power Consultants, Inc. of Rockville, Maryland.

In performing the required management assessment, we must start with the basic premise that Quality Assurance is nothing more and nothing less than good management practices. A further premise is that each organizational unit must be assigned, and must accept, responsibility for the quality of its work and its effectiveness in achieving the overall objectives of the organization as a whole. Ultimately, each individual must expect to be held personally accountable for the quality of his work and its effect on related work performed by others.

An adequate organizational framework, staffed by properly motivated and trained personnel, guided by a body of policies and procedures, provides a structure within which a Quality Assurance program can be made to function effectively. If any of the essential factors is weak or missing, the effectiveness of the QA program will be diminished.

1.2 Purpose

The purpose of this review is to assess the degree of implementation of, adherence to, and effectiveness of the JCP&L Operational Quality Assurance Program.

1.3 Scope

The scope of this management evaluation included review of Quality Assurance Procedures; review of implementing department procedures and instructions describing quality programs; interviews with a broad cross section of JCP&L personnel concerning their responsibilities and understanding of these programs; and a review of completed records documenting various aspects of the program. The time period required for completion of the management review was greater than originally contemplated because of the need to schedule NPC work around a lengthy Nuclear Regulatory Commission management review which began shortly after the NPC review got under way.

The extent of the management review was limited to the following broad categories of activities:

. Management and Administration

. Design Control

. Records management

. Chemistry, Radiochemistry and Health Physics

. Maintenance and Modification

. Procurement and Stores

. Plant Operations

. Nuclear Fuel (in-plant activities only)

. Training and Qualifications.

A major part of the discussion in the body of this report is organized according to the subjects listed above. However, because of the need to satisfy certain JCP&L requirements for this evaluation, some points of the report discussion pertain to other combinations of activities and organizational relationships. As a result, there is some overlap and repetition between the discussion of the overall evaluation of the Quality Assurance Program and the sections discussing specific areas in which the review was actually subdivided and conducted. This duplication is a result of overlap between discussion which group programs having similar management characteristics (effectiveness, efficiency, etc.) and grouping programs which are related technically. Both discussions are provided to meet the requirements of the specification and to conform to the approach presented in our proposal.

2.0 EXECUTIVE SUMMARY

The nature and extent of the findings which resulted from this management review are such that it did not seem useful to present a one or two page executive summary. Rather, we have elected to present a brief statement of all our findings in this section of the report. The basis for our findings and other discussion of the results are presented in more detail in Section 3.0.

2.1 General Observation Concerning the Overall Quality Program

Jersey Central Power and Light Company has undertaken an ambitious Quality Assurance Program. The responsibility for implementing the QA program within the organization has been placed almost solely on the Quality Assurance Department with other departments partially or totally abdicating their quality responsibilities and relinquishing them to the QA Department. The QA Department, for its part, has vigorously pursued new responsibilities, and rather than require the departments to implement and manage their own quality responsibilities, has usurped many of those responsibilities in an effort to improve the effectiveness of the program. As a result of this process, Quality Assurance and the other departments have settled into an adversary relationship. Quality Assurance personnel are convinced that they are the only ones really interested in quality. Other organizations profess an appreciation for the need for quality assurance but feel that the Quality Assurance Department puts unrealistic requirements on them because QA does not have an understanding of what that department does or is over zealous in the pursuit of the program.

As opposite as these two viewpoints appear to be, in many cases both are correct. Organizations other than QA are not concerned about the inclusion of quality assurance requirements in their activities. They consider it the responsibility of QA to tell them what the QA requirements are when QA performs a review of their proposed activity. The QA staff, on the other hand, does not have the technical background or operational experience to interpret QA requirements in every technical or operational situation. In these situations, QA must be content to be assured that technically qualified individuals have considered the QA requirement and made a technical judgment on how the requirement should be applied. On occasions where QA has overstepped these bounds and, for example, attempted to dictate exactly how a department should implement a requirement, or make a technical decision on the acceptability of a part for a particular application, they have rightly been criticized for "not understanding what they are doing."

Many of the problems noted in this review, and almost all of the negative perceptions of quality assurance, appear to be the direct result of an excessive dependence on the Quality Assurance Department for all aspects of the quality programs. It is the opinion of this review team, that, for the Quality Assurance Program to function as intended, each department at Jersey Central must accept responsibility for and implement its own quality programs. The Quality Assurance Department must relinquish those responsibilities which rightly belong to other organizations, and reduce its role to administration, surveillance and audit, and training and education in Quality Assurance. The JCP&L quality assurance program must become an overall team effort rather than the results of the efforts of a single organization or of a limited number of especially interested individuals.

The degree of implementation of JCP&L QA policies varies from department to department. Those parts of the QA program which are the direct responsibility of, and under the direct control of, the QA Department are considered to be most effectively implemented. Considerable improvement is needed in implementing QA requirements in the areas of Maintenance and Health Physics. Varying degrees of improvement are needed in other departments.

It is important to recognize that a Quality Assurance Department can not function at all unless the organization, whose quality it is to assure, is structured, staffed, funded, and managed in a way that will permit it to work toward the specified objectives. To the extent that there are weaknesses in any of the four factors mentioned above, in any of the major organizational components, the effectiveness of the QA program will be reduced.

In the paragraphs which follow, we have listed those areas where changes and improvements must be made in order to permit the policies and objectives of the QA Program to be implemented more fully and more effectively.

2.2 Management

a) There are serious morale problems in some departments and these must be more clearly identified and their cause corrected. It is expected that many of the recommendations contained in this report, if implemented, will be beneficial in improving morale.

b) There are several individuals in QA, on the plant staff, and in Engineering who appear to be outstanding with regard to their understanding of their jobs and their willingness to accept responsibility for doing them right. These individuals should be recognized for their efforts in pursuing and achieving quality objectives and other personnel should be encouraged to learn from their example.

c) There are several individuals whose level of anger, animosity, resentment and frustration have almost rendered them incapable of performing their jobs within the requirements of the QA Program. Those persons who consistently avoid, bypass, or flout QA Program requirements must be identified and the necessary corrective action must be taken to encourage their conformance with QA Program requirements. Documented deviations are tolerable in a QA Program; deviousness is not. Approved modification and manipulation of requirements are acceptable; mendacity is not.

d) The Vice President-Generation must exert more leadership and provide more emphasis concerning the consequences of non-compliance in order to bring about full acceptance and effective implementation of the QA Program policies and objectives.

e) The organizational structure must include a strong and more direct interface between Generation Engineering and the plant staff. This can probably be accomplished through a link with the engineering support group, which was recently proposed to become part of the Technical Services group at the plant. Staffing and Training of this group should be expedited to speed efforts to improve technical quality, methods and procedures in operations, I&C, and maintenance.

f) Actual responsibility for achievement of quality objectives must be assigned to the individual departments, with the QA Department retaining broad responsibilities to verify implementation and to assess effectiveness through QA surveillance and audit activities.

g) The necessary guidance, staffing and funding must be provided to initiate new programs and improve existing programs for training in all phases of work pertaining to the nuclear plant. This must include training specific to each department as well as general employee training (for nuclear plant work), general QA training, general health physics training (including self-protection health physics), and emergency procedures.

h) To improve understanding between departments and to groom individuals for greater responsibilities in the nuclear program, a plan for job assignment rotation should be started as soon as possible (e.g., move people from QA into maintenance, from engineering or operations into QA, etc.).

i) The Independent Safety Review Group (ISRG) should be better organized; its functions more clearly defined; and its activities formalized to achieve more effective and more timely review and response. Improvement is definitely needed if this group is to be useful at all.

j) Management attention is needed to get the ALARA Committee functioning and to demonstrate a firm management commitment to reducing radiation exposures. Failure to act on this matter could be very expensive if any radiation exposure incident gains the attention of the NRC or the public.

2.3. Quality Assurance

Several persons interviewed indicated that most right-thinking people recognize that the QA personnel and the QA Program have instilled in them a greater sensitivity to the need for continually improving their procedures, improving their performance in many areas, giving more attention to important details, and performing more checks and verification.

a) Although there were many positive comments about QA and the contribution QA has made toward improvements in plant performance, safety and availability, there is an overwhelming impression of lack of respect for the Site Quality Assurance organization and for Quality Assurance Personnel. Some of the reasons for this situation are quite legitimate and the causes must be recognized by QA Management and corrected.

b) The capabilities of individuals assigned to QA must be upgraded by improved QA training, hiring more experienced personnel, providing specific job training, expanding individual capabilities through job rotation, and encouraging pursuit of further professional development on the individual's own time. The breadth and depth of job knowledge and experience within QA must be improved; the size of the staff must be increased to mount an effective QA program.

c) Current QA practices must be re-examined to determine if the philosophy and objectives of the Non-Conformance Report system are being correctly implemented. There are reports of excessive numbers of NCR's; issuance of "trivial" NCR's; use of one NCR to report on failure to respond to a previous NCR; and use of an NCR to re-open and impose QA's will on matters considered to have been resolved by the affected department.

d) Management of NCR responses must be improved to obtain more timely response and resolution. It should take the lead and offer positive, constructive recommendations for resolution.

e) QA should, in the future, limit its participation in the review process for other departments' procedures to those procedures which require QA hold points or which directly affect the duties and responsibilities of the QA Department.

QA comments on other department procedures should be limited to those that are legitimate QA concerns. Present practices cannot be considered either cost effective or effective in achieving overall QA Program objectives.

f) QA coverage of health physics and related waste treatment and disposal activities should be initiated as soon as possible.

g) QA coverage of Technical Specification requirements should be expanded to include specific attention to compliance with Limiting Conditions for Operation.

h) QA should gradually reduce its direct involvement in Quality Control and Inspection activities within the plant and should encourage and assist in the development of QC capability within the departments where needed. (QA should retain complete responsibility for receiving inspection for the near future and should also retain responsibility for radiography, magnetic particle, and ultrasonic examinations.)

i) Personnel performing inspections at Vendor's plants and at JCP&L receiving-warehouse must be clearly qualified to perform the assigned inspection. If QA personnel do not have sufficient knowledge or experience to perform a particular inspection, they should call for assistance from qualified personnel from other departments. The risks of passing unacceptable material, as a result of ignorance or lack of experience, cannot be tolerated.

j) The Quality Data Evaluation program should be implemented as soon as possible, making maximum use of computerized data from any department which has it available.

k) Continuing attention must be given to making QA efforts deal with substantial matters rather than becoming bogged down in the "form" of things. The QA Department should not be used to achieve objectives which should otherwise be achieved by proper management, training and organizational discipline and teamwork among all departments. QA Department activities should be carried out in such a way that they can only be perceived as constructive and supportive, NOT PUNITIVE, with respect to other departments.

l) Quality Assurance Surveillance activities should be initiated to verify that the Technical Specification Limiting Conditions for Operation are being met and that an effective means exists for conveying plant status and LCO status at shift turnover.

m) QA personnel should be given special training in handling people and in maintaining objectivity under stress. Because of the nature of the problem, QA personnel must learn to avoid being abrasive while remaining firm in their resolve to enforce legitimate, clearly specified quality requirements.

2.4. Maintenance

a) The procedures for controlling emergency maintenance on QASL-items must be improved and must be adhered to at all times.

b) A Preventive Maintenance Program should be given a higher priority than is presently apparent. Planning activities and setting up scheduling and controlling systems should be sped up and action must be taken to increase the numbers and upgrade the qualifications of personnel for assignment to PM work.

c) A computerized system for controlling, scheduling and tracking maintenance job orders is badly needed to reduce the amount of clerical work and enable supervisors and foremen to provide more planning and guidance for the actual work. (It is nearly impossible to establish any effective QA surveillance of maintenance work without a computerized system for tracking and ascertaining status of the work.)

d) A maintenance Quality Control group should be set up within the plant organization to provide more rapid response to the need for inspection of maintenance and repair work within the plant. Inspectors should be drawn from the ranks of skilled craftsmen who should be given training necessary to qualify them for the new assignment. Consideration should be given to keeping inspectors out of the bargaining unit.

e) Considerable improvement is needed in maintenance planning, particularly with regard for reducing radiation exposure. The planning system should include capabilities for dealing with radiation exposure experience on prior jobs of similar nature; scheduling personnel, equipment, materials and operations so as to avoid interruptions or changes in the work which could result in unnecessary exposures; and use of mockups to rehearse and refine work methods so as to reduce time spent in higher radiation levels.

f) Qualified welders need more opportunities to weld or to practice welding to maintain their skills so they are ready to produce welds of acceptable quality when called upon to do so.

g) Mechanics must be trained in plant systems and equipment so that they develop greater understanding of the safety and quality significance of their work. They must also have indoctrination on specific jobs, stressing what is important to nuclear safety, health physics requirements important to their own safety, and the specific quality objectives they are expected to meet.

h) Mechanics must have ready access to drawings, specifications, procedures, and vendor manuals for the systems and equipment they are expected to maintain and repair.

2.5 Operations

a) Health physics technicians must be provided a formal training program and must meet certain standards before being assigned responsibility for the safety of others. At present, the minimum qualification requirements, in the absence of formal training, appear to be inadequate. Along with upgrading the quality and capability of H.P. technicians, consideration should be given to creating a job not covered by the bargaining unit.

b) A laboratory cross check program should be initiated with an independent laboratory for chemistry and radiochemistry for those analyses important to safety and license compliance.

c) Efforts must be made to eliminate discrepancies and duplications in component numbering to reduce the possibility of operation error. Also, more complete and more accurate valve line up lists must be provided.

2.6 Engineering

a) Greater emphasis is needed on design control and all engineering department personnel should be thoroughly indoctrinated in the QA requirements, practices and procedures related to design control.

b) The Quality Assurance System Boundary and Classification Book must be maintained up-to-date and should be usable by all departments for guidance.

c) In the preparation of specifications, drawings and other engineering documents, greater emphasis should be given to assuring that requirements specified (including quality requirements) are necessary, reasonable and attainable.

d) Although a concerted effort is being made to obtain and update all required as-built drawings, more manpower is needed to get the job done more quickly to avoid possibility of errors due to inadequate drawings or NRC citations for failure to have proper drawings available while performing quality related work.

e) Drawing control procedures need improvement, with particular regard to methods for informing users of pending changes to drawings (i.e., change notices being worked at the site and for which drawing change authorization has been received but work has not been accomplished).

2.7 Procurement and Stores

a) Purchasing department personnel should get additional indoctrination so that they more fully understand the costs involved in plant outages and can factor those considerations into their decisions on purchase price versus delivery time.

b) Delays in processing change orders on contracts should be reduced, particularly when safety related equipment or services are involved. In some instances, delay in making a change could adversely affect quality by inadvertantly allowing work to proceed on the basis of inadequate quality requirements.

c) Better communication is needed to notify users when material arrives at the warehouse. This will permit users to participate in any decisions or evaluations involving material in which he has an interest.

d) A Material Review Board should be considered for use in dispositioning discrepant material. Such a Board, made up of representatives from Design Engineering, QA, Purchasing, Materials Engineering, and the user could act rapidly to determine if material should be used "as is", rejected, reworked, or repaired.

e) Procedures must be set up to purchase and control lubricants for use in safety related equipment.

f) Procedures for receiving inspection and analysis of fuel oil for use in safety related equipment must be improved and sped up. Some method must be devised for prompt analysis on site to determine if quality requirements are met.

g) Procedures must be established for purchasing standard catalog items for use in safety related equipment. Where such standard items have been specified for original equipment, exact replacement by part number should be acceptable. Where new catalog items are to be obtained for safety related service, confirmation by engineering of suitability for the intended service should be acceptable.

h) Storeroom withdrawal procedures should be improved to assure that records are generated which will provide traceability in both directions for safety related material and replacement parts. The purchase order record package should show where the material went when it was withdrawn (i.e., number of component where it was to be used, job-order number, change order number, or the like). Thus, when the warehouse identification of the material is entered on the maintenance record, two way traceability is provided.

2.8 Records Management

a) Records required by the QA Program are not being adequately managed. A more comprehensive effort, with a greater number of people is needed to reduce the backlog of records received but not yet coded for indexing.

b) The Indexing system is quite general and requires some care to select a meaningful set of index codes, but there does not seem to be any great emphasis on training people to assure consistent usage.

c) There is no systematic identification of specific records which each department must submit. Records are submitted to the document center at the originator's leisure or not at all.

d) A records center is of no value if it is not responsive to the needs of its users. The site records center must revise its practices and procedures to respond more rapidly to plant personnel requests for retrieval and copying of documents needed to perform their work.

e) A full time records manager should be appointed and charged with responsibility for bringing both records centers to a point such that users can develop confidence in the ability of the records center to respond quickly in retrieving records.

f) Records center personnel should be trained to do most of the index coding, with a minimal of basic information furnished by the originator. Centralizing this function will assure greater consistency in filing and improve retrievability.

2.9 Other Observations

The preceeding sections contain most of the important observations and recommendations developed during this management review. However, the entire report should be read to become aware of the basis for these recommendations. In addition, there are other subsidiary comments, observations and recommendations throughout Section 3.0 which should be read for further clarification and amplification of the matters covered in Section 2.0.

3.0 DISCUSSION

3.1 Methods

3.1.1 Overall Approach and Scheduling. A general plan for conducting this Quality Assurance Program Management Review was presented in NPC's original proposal (Reference 4.3) submitted in response to JCP&L Inquiry 29776. This plan was modified after further discussion with Mr. Dave Gaines on May 7, 1979, and a final plan was submitted in the amended proposal (Reference 4.4), which was subsequently accepted by JCP&L (Reference 4.6 and 4.7). However, a new schedule was developed to conform to the actual award date and to accommodate a planned Oyster Creek refueling in September.

An initial visit was made to JCP&L offices July 31–August 1 to obtain necessary documentation to develop detailed plans for conducting this review. The documentation was reviewed and interview guides were prepared for use. In addition, individuals/positions were selected from organization lists to schedule interviews for a broad cross-section of organizations involved in this review. The initial off-site portion of the review was conducted September 10-12 and September 20-21 at Morristown and September 20 at Sayreville. A pre-review conference was held with Mr. Dave Gaines and Mr. Bruce Bader on September 10 and with Mr. Ivan Finfrock on September 11. The initial on-site portion of the review was conducted September 13-14 and September 17-19 at Oyster Creek. Interview plans and schedules were modified to accommodate the new organizational structure which has just become effective. An initial on-site conference was conducted with Mr. J.L. Sullivan on September 17. A list of all persons contacted during the review is presented in Exhibit 5.1.

The need for additional follow-up was identified in the exit briefly conducted for Mr. D. Gaines on September 17. It was necessary to arrange the schedule for the follow-up work to avoid interfering with the NRC evaluation which began in late September and continued into November.

Preliminary findings and a proposed schedule for follow-up activities were submitted in Reference 4.9.

Follow-up interviews were conducted on November 8-9 at Oyster Creek, on November 12 at both Morristown and Oyster Creek and November 13 at Oyster Creek.

An oral presentation of the final report was given at Morristown on November 27, 1979, to Messrs. Finfrock and Gaines.

3.1.2 Detail of Methods. This review was conducted through three main modes: procedure review, interview of a cross section of JCP&L personnel involved in quality activities, and a review of selected completed records.

The procedure review included the following documents:

- JCP&L Quality Assurance Plan
- JCP&L Quality Assurance Manual (2000, 3000, 4000, 5000, 6000, and 7000 Series procedures plus SQAI's and OQAI's)
- Oyster Creek Technical Specifications
- Oyster Creek Administrative Procedures (100 Series)
- Selected Oyster Creek Plant Procedures (200, 300, 400, 500, 600, 700, 800, 900 series)
- Material Management Manual
- Emergency Plan

From the review of the procedure, interview guides were prepared for the various quality activities covered. In addition, a list of records for possible review was generated as a result of the document requirements indicated in the procedures reviewed. The procedure review included a check for compliance with content, format and document control requirements of Regulatory Guide 1.33, ANSI N18.7 and governing JCP&L documents.

The interviews, conducted using the guides mentioned above, were designed to cover the responsibilities of the individual, his supervisor's and/or his subordinates' responsibilities, the organization responsibilities, individual and organizational interfaces, and the effectiveness of the various programs discussed. The emphasis was placed on quality control and quality assurance activities; however, other programs and activities which the individual felt were important to his position were also discussed. Interviews were generally 1 1/2 to 2 hours in length. The interviews were conducted in the individual's work space as much as possible to allow review and discussion of specific examples of the day-to-day records and routines.

On completion of each interview, notes were made of the individual's understanding and attitude toward the responsibilities of his position and his department, his understanding of interface between himself, his department, and other departments, and his comments on the effectiveness of the programs discussed. The interviewer also noted the individual's attitudes concerning the items discussed, with particular emphasis on attitude toward QA. The interviewer noted any areas where follow-up was needed through additional interview items, changes or additions to the interview plan and schedule, and specific record review.

Several times during the course of the review (daily when possible), the audit team met to discuss the progress of the review and items of particular significance. In addition, since the tight interview schedule did not always permit an individual's supervisor or subordinate to be interviewed by the same review team member, discussions were held comparing the perceptions of individuals in the same department to determine any inconsistencies or problem areas. Written notes and/ordictated comments were also reviewed by other members of the review team to identify areas wherein similar comments were being made and areas where the comments made were isolated or contradicted by others.

As time permitted during the interviews, records were reviewed which were in actual use or in the individual's files. Additional records were reviewed, as time permitted, in the document control centers. The records reviewed were evaluated to determine if they indicated that the program was actually being conducted in the manner intended by the procedure, whether individuals understood how to use the record, and whether any special forms in use were the same as those specified in the procedure. In addition, the record review provided an opportunity to evaluate the relative ease of retrieval of records in the document center, the completeness of the files, and the functioning of the document center administrative controls.

On completion of the review team's initial efforts during September 10-14 and September 17-21, the results of the procedure review, the interviews and the records review were analyzed as a whole. Because other scheduled JCP&L activities prevented immediate scheduling of follow-up activities, preliminary findings were prepared for areas in which it appeared that programs were not effective, that specific items were noted to be in noncompliance with the program, and that programs were apparently not in compliance with regulations, standards, or regulatory guides. Since the intent of these preliminary findings was to provide JCP&L with early feedback of our findings and not to represent the finished results of our review, no effort was made to assign priorities or levels of significance.

Interview comments were categorized to allow a determination of the relative frequency of occurrence. This analysis was performed to assist in separation of those perceptions which are widely held from those held by an isolated minority (see Exhibit 5.2).

3.2 Overall Evaluation of the Quality Program

The review team assessed the degree of implementation, the effectiveness, the efficiency, and the conformance to regulatory requirements, of the overall Operational Quality Assurance Program.

3.2.1 Degree of Implementation

The degree of implementation of the quality assurance program varies from department to department.

Programs which are the direct responsibility of the Quality Assurance Department (i.e. in general those procedures in the 2000, 3000, and 4000 series) are fully implemented with two exceptions.

- The Quality Data Evaluation Program. (Procedure 4004 has not been implemented.
- QA Training for non-QA personnel (Procedure 4002, Section 5.3.1.1) has only been conducted one time several years ago. There is no continuing training nor indoctrination of new personnel.

Programs which are the responsibility of the Manager, Nuclear Generating Stations (i.e. in general, the 5000 Series procedures and the 100 Series Oyster Creek procedures), have been fully implemented with the exception there is no training program for personnel other than operations.

Programs which are the responsibility of the Generation Engineering Department (i.e. those procedures in the 6000 Series) are only partially implemented. Major elements of this program which have not been implemented are:

- Drawing Control (Procedure 6010 has not been issued)
- Departmental Training (a program has been developed but not implemented)
- The Quality Assurance System Boundary Book (No procedures or mechanisms have been set up to monitor this document. As a result, it is out of date and not used.)

Programs which are the responsibility of Generation Construction and Maintenance Department (7000 Series procedures) are only partially implemented. Major elements of this program which have not been implemented are:

- Preventive Maintenance Program
- Departmental Training

Programs which are the responsibility of the Material Management Department are only partially implemented. Major elements of the program which are not implemented are:

- 9000 Series procedures have not been issued (the implementing MM procedures and Oyster Creek Storeroom procedures are issued).

- Program to return spare parts currently distributed throughout plant to storeroom control.

Programs which are the responsibility of the Generation-Administration Department (Records Management) are fully implemented. However, there are indications that the Records Management program is weak in several important areas (see paragraphs 3.2.2d and 3.3.3).

3.2.2 Effectiveness

With the exceptions of programs discussed below, quality programs were effective and the goals of the quality assurance program are being met. Those programs which are the direct responsibility of, and under the direct control of, the Quality Assurance Department (with some limitations because of staffing and priorities) were the most effective. Those programs which required cooperation between the Quality Assurance Department and other departments were less effective. Those quality programs which had no interface with the Quality Assurance Department (e.g. the ISRG program or Departmental training programs) appeared to be the least effective.

Significant problems were noted with the effectiveness of the following programs (in order of relative importance).

a) Non-conformance and Corrective Action Program: A significant percentage of NC/CAR's are not answered within 30 days indicating that they are not being handled with an appropriate sense of urgency. A significant percentage of all NC/CAR's open over thirty days remain open, indicating a problem in continuing follow-up to close out open items. It was noted on the NC/CAR status report remarks column that items had passed their comment date (presumably date that item would be closed) by as much as six months to a year. Causes of these problems are believed to be a very low priority given to answering NC/CAR's by plant staff and using the NC/CAR system as a data base for trend analysis and other management information.

In some cases NC/CAR's are being written to provide historical data rather than corrective action (e.g. problems were often corrected on the spot). In addition, several NC/CAR's are often written when one would suffice (e.g. one for each deficiency resulting from a common problem). The multiple NC/CAR's were apparently written to provide data on relative frequency of deficiencies. Use of the NC/CAR system in this manner has seriously hampered its effectiveness by diluting the importance of an NC/CAR through the issuance of unnecessary or multiple NC/CAR's. This creates a consciousness of the "NC/CAR count" in which the number of NC/CAR's received becomes a more significant statistic in managing the system, rather than the importance or significance of the NC/CAR itself.

NC/CAR's are written when an existing NC/CAR or Audit Notice is not answered by the due date, or when an audit report is not issued within the preset time period (30 days). While it is significant to note that a prescribed action required by the Quality Assurance Program has not been conducted as required (and is therefore a deficiency), we question the need for an NC/CAR when management information reports (NC/CAR Status Reports, Audit Notice Status Reports, etc.) provide the same information. In some instances, the NC/CAR reporting that a required response was overdue was itself still open, while the required response had actually been provided and the original NC/CAR/Audit Notice had been closed. This practice does not seem to be productive. It is apparent that the effectiveness and the impact of the NC/CAR system needs to be improved. Elimination of unnecessary aspects of the system which are implemented to meet needs other than producing corrective action seems warranted.

b) Control of Emergency Maintenance: Current practices for conducting maintenance are not effective in ensuring the quality of the work. The Procedures governing plant maintenance (105) permit emergency maintenance to be performed without a written step-by-step procedure. However, in some cases, emergency maintenance is conducted without a job order sign off, or other documentation. The paperwork for the job is thenbackfitted several days later.

The procedure allows emergency maintenance only when authorized by the shift supervisor and a member of plant management. No record is maintained indicating that this requirement is being adhered to.

The intent of the procedure is not clear, but in the opinion of the review team, when an emergency repair is required, a job order form should be initiated and signed by the shift supervisor with a member of plant management concurring. The job order form would then be given to the technician or his foreman to authorize the emergency work without a procedure. If the work was on a QASL system,appropriate QA notification should be made and the work could then proceed. On completion of the emergency maintenance, appropriate sign-offs should be obtained. For final sign-off of work, a detailed description of the work completed should be added to the package, and appropriate "QA Backsheets" completed.

The major problems with current practice are:

(1) There is no documentation of the administrative controls for the shift supervisor and one member of plant management to authorize emergency maintenance before proceeding.

(2) There is no requirement to notify QA of QASL system emergency maintenance until several days later when the paperwork is being backfitted to the job. At that point it is usually too late to add quality requirements to the work.

(3) There is no mechanism to ensure that a job order will, in fact, be generated at all to cover the emergency maintenance. Once the work is completed, the paperwork becomes only an administrative requirement and may be set aside and forgotten for more pressing problems.

c) The Independent Safety Review Program: Safety reviews are not being conducted in a timely manner. Backlogs as large as one year are being experienced in review (e.g. NRC IE Inspection Reports). The current program does not have sufficient personnel with time available to perform reviews (causing delays in assigning reviews), nor does the program have means of ensuring the timeliness of reviews which are assigned (reviews have low priority because they are in addition to regular duties). Because ISRG members self-certify their expertise with no other review or examination of their certifications, there is no assurance that sufficient expertise has been assigned to make a proper independent review.

The shortcomings and backlog of the ISRG have been recognized by the ISRG Coordinator. In an effort to ensure that items of significant safety implications are not buried in the review backlog, the ISRG Coordinator screens incoming documents for ISRG review to detect items for immediate consideration. If documents are believed to have safety implications, they are given priority for ISRG review. At the same time, the ISRG Coordinator prepares a memorandum outlining his preliminary safety concerns and forwards it for appropriate action within the company. These newly initiated efforts should improve early recognition of safety concerns which should be addressed, until such time as ISRG review performance can be improved. The weakness of this appropach is that the full burden of determining safety concerns falls on a single individual and not the collective experience of the ISRG as intended.

d) Records Management: The records management program has been somewhat effective in the storage and retrieval of documents. However, the program has been relatively ineffective in ensuring the documents are submitted periodically. Many instances were noted where two to three years backlog of documents were being retained in departmental files or an individual's offices. While documents are required to be submitted on an annual (or in some cases semi-annual) basis, the sole responsibility for ensuring documents are submitted as required lies solely with the individual holding the document, with little or no verification by other parties that this is done. Although it may be difficult for the document center to determine which documents it should be receiving, we feel that individual departments should determine what documents are required to be submitted and provide this information to the document center. Records personnel could then follow up and perform their own verifications that submittals are being made as required.

Another important problem with the records system relates to past problems in retrieving documents. Difficulties, delays and losses have evidently soured some individuals toward submitting documents and subsequently not being able to retrieve them. While we did note some inefficiencies in document retrieval, the process appeared reasonably effective once the proper file number was obtained.

A related problem with the record management system was that some records submitted are incomplete. A review of the file containing completed pages of the NC/CAR log, for example, appeared grossly incomplete and, for some periods, there were almost as many pages missing as were present. It is impossible to tell if the other pages were originally submitted and have since been lost or were never submitted at all. There is apparently no mechanism to ensure that submittals are complete nor is there any inventory of the contents of a given file which could be used to verify periodically that the contents of the file are complete. JCP&L has protected itself somewhat from loss of records through the duplication of record centers. This will generally permit the recovery of a document lost from one record center by requesting it from the other. If the document was originally submitted in an imcomplete form, however, the duplication of record centers is of no help.

Because assignment of file number is usually done by the person submitting the record, there is little opportunity to achieve consistency. There were some indications of "catch all" filing under one very general index category.

e) Quality Assurance Department Training: The Quality Assurance Department training program is in compliance with Procedure 4002. The program for indoctrinating new personnel is reasonably effective. However, training requirements beyond initial indoctrination are established on an individual basis when an individual QA Department member's performance is evaluated. In practice, performance deficiencies related to need for retraining have seldom been identified, with the net result that there is almost no continuing training for QA Department members. Only three training sessions were noted in the training log for 1979.

The QA training program objectives do not address the need to broaden individuals beyond their immediate job responsibilities to prepare them for more challenging assignments and increasing responsibilities. Section 3.3.9 covers several areas in which the reviewers felt that experienced QA Department personnel could benefit from training. The current training program is deemed to be insufficient to ensure professional growth and availability of personnel to fill vacancies in senior positions from within the staff.

3.2.3 Conformance to Regulatory Requirements, Codes, Standards, and Regulatory Guides

The Operational Quality Assurance Program conforms very well to regulatory requirements, codes, standards, and regulatory guides with the following significant exceptions:

a) QA Coverage of Health Physics: There is almost no QA coverage of Health Physics. Discussions with the QA staff indicate that, in their opinion, no regulatory requirement exists for QA coverage of Health Physics activities. We feel strongly that this position will lead to difficulty for JCP&L. Health Physics activities directly contribute to the health and safety of the public (as well as JCP&L employees) by providing means to detect and evaluate radiological accidents and mitigate their consequences by establishing and maintaining control areas to prevent uncontrolled spread of contamination. In addition, lack of quality control of health physics activities have led to citations from the Nuclear Regulatory Commission. For these reasons, QA coverage of health physics appears prudent. Other operating licensees, with which NPC has contact, have much more extensive Quality Assurance coverage of health physics activities than JCP&L and that QA coverage is considered valuable.

b) Personnal Qualifications: Most personnel qualifications meet or exceed ANSI N18.1 requirements (as modified by the QA Plan). For Radiation Technicians, the requirements of the position description are considerably less than ANSI N18.1 but, per the QA Plan, the position description for Bargaining Unit personnel shall be used in lieu of the standard. The position description for Radiation Technician B specifies a high school graduate with courses in chemistry and/or physics. No experience in Health Physics is required. ANSI N18.1 specifies a minimum of three years' experience for technicians, and in the absence of that experience, appropriate training programs to ensure a minimum competency. There is no training and qualification program other than on-the-job training for a 90-day period for Radiation Technicians. (A similar situation exists for incoming Chemistry Technicians, but an excellent training and qualification program is established.) Minimum requirements for Radiation Technicians, in the absence of a training program, appear to be inadequate to ensure proper radiation protection for the plant. Interviews with Radiation Technicians confirmed a general lack of appropriate training and a low level of knowledge of proper radiation protection practices.

c) Interlaboratory Cross Check Program: Regulatory Guide 4.15 requires an interlaboratory cross check program as a quality control measure for chemical and radiochemical measurements. Oyster Creek Chemistry Department has an excellent program of internal checks and quality control. However, no external program has been implemented. The Regulatory Guide covers environmental programs and may not be strictly applicable to plant chemistry programs. However, participation in an external laboratory cross check program is considered prudent, especially if the Chemistry Department performs any environmental measurements.

3.2.4 Efficiency

As discussed in Section 2.1, the Quality Assurance Department has undertaken many of the responsibilities which should belong to other departments. This practice itself causes inefficiencies. Since this is a widespread phenomenon, we have not addressed each instance where efficiency could be improved by allowing a department to perform a function now performed by Quality Assurance.

Some specific problems with program efficiency (as opposed to the general problem noted above) were noted and are discussed below:

a) Job Orders: The efficiency of handling job orders is significantly reduced because of the following:

(1) QA signoff of completed job orders, prior to the shift supervisor signoff, causes unnecessary delays in notification of the shift supervisor that the work is complete and the system operational. QA post-maintenance review could just as easily occur after the shift supervisor signoff. This would also prevent the foreman from making a special trip to the QA offices and back to the control room to obtain required signoffs.

2) Job Order System is administered manually. This results in a considerable effort in manual sorting, assigning priorities, and status-keeping (awaiting parts, etc.) by maintenance foreman. Computerizing the Job Order System could significantly reduce this workload, if used as a scheduling and management aid. Management Information Reports also could be generated for identifying outage work, QASL work, department workloads and backlogs, and for manning evaluations. QA could use the system for keeping abreast of QASL work.

b) QA/PORC Procedure Review: Current QA review of procedures is conducted after PORC review. Any additions or corrections of procedures required by QA then requires another PORC review. This effort is time-consuming and slows down the approval process. Considerable savings of time could be achieved by having QA review before PORC review and possibly reduce PORC workload by having it review procedures only in final form.

c) Site Document Center Handling of Requests for Copies: A turnaround time of from three days to a week was reported for routine requests for copies of documents from the Site Document Center. This retrieval time could be reduced for priority needs, but this practice was generally discouraged. The long time involved in obtaining documents has resulted in document control practices being bypassed; maintenance of unofficial files (especially prints); and obtaining extra copies of controlled distribution procedures for use as needed; all of which could result in use of out-of-date procedures or documents.

It is not known how much of the delay is due to the volume of copies requested and how much of the delay is built in to discourage unnecessary copying. However, it is considered essential to reduce the turnaround time to one day or less, to reduce or eliminate efforts to bypass the document control system.

d) Notification of Spare Parts Arrival: Departments have not been able to find out what parts have arrived until after a receipt inspection had been made. This resulted in delays in completing job orders since receipt inspections had often been deferred pending receipt of documentation. Often the parts may have been on site for several months before receipt inspection could be completed. In many cases, had the department known it had arrived, the part could have been used in a non-QASL application, or used as-is with a NC/CAR issued pending record receipt.

Recently, departments have been notified that parts are in so that they can let QA know if there is a priority need for a receipt inspection. This practice has not yet been included in Storeroom instructions which still specify notification after receipt inspection. This new practice should be formalized in the procedures as soon as possible.

e) Use of "Bench Spares": Spare parts which were supplied by the NSSS vendor or were received prior to a Quality Assurance Program being implemented cannot be used in the plant according to current procedures unless they can be traced to a purchase order. Many-man hours are spent each time one of these parts is used, trying to meet current QA requirements for traceability to a purchase order, determining that the part is no longer available from a qualified (or qualifiable) vendor, and determining what form of inspection test or certification should be required to ensure the acceptability of the part for use. The next time a part is required, the same effort is expended again even though the outcome is readily apparent, i.e., the part is not traceable, not available by another means, and little can be done other than a visual inspection prior to installation and a functional test after installation. Considerable effort could be saved if a systematic program to inventory and evaluate the acceptability of "bench spares" were implemented.

3.2.5 Recommendations for Management

Management consideration should be given to the following recommended actions to either correct deficiencies noted or significantly improve the effectiveness or efficiency of the programs involved.

a) More of the responsibility for quality programs should be assigned outside the Quality Assurance Department. Quality Assurance should reduce its role in Level I activities, such as direct inspection (quality control) and direct verification of administative controls (good management practice), and should increase its efforts in Level II (surveillance) activities. Departments should have direct responsibility for all first level quality programs for work under their cognizance. Quality Assurance should verify that the departments are properly administering these programs. This recommendation represents a shift in the current quality assurance philosophy adopted at Jersey Central Power and Light, and implementation will require training in the new philosophy and education of non-QA Department personnel in their new responsibilities.

b) Training and qualification programs should be established or upgraded to provide comprehensive training to all JCP&L personnel, not just licensed operators. The objectives of such a program should be:

(1) To ensure minimum competence levels are achieved and maintained;

(2) to broaden individuals to prepare them for increasing responsibilities within the company;

(3) to educate personnel regarding other organizations' activities and resposibilities so as to improve organizational interfaces and increase "team spirit";

(4) to emphasize the need for personal accountability with regard to the quality of work performed by every individual.

The benefits of such a program are better qualified individuals, a greater degree of job satisfaction, and greater flexibility to fill vacancies from within the company staff.

The first priority for a training and qualification program should be the Radiation Technicians.

c) Establish job rotation plan for middle management personnel. Quality Assurance personnel should be rotated to plant positions, and plant personnel to Quality Assurance. While such a rotation may not be desired by the personnel involved, its long-term effect will be to improve the knowledge of quality assurance requirements outside the Quality Assurance Department, and provide increased expertise in plant technical matters within the Quality Assurance Department. Although positions requiring a license would not be available to non-licensed personnel, it may be prudent to have personnel with licenses assigned within the Quality Assurance staff. We have seen such a rotation at one of our client's facilities and there is significant improvement in the outlook of plant and Quality Assurance personnel toward their responsibilities.

d) Procedures governing drawing control should be issued and implemented as soon as possible. This is essential to improving the poor state of control presently exercised over JCP&L drawings.

e) An intensive program should be set up to identify all drawing deficiencies, and upgrade the deficient prints. It is recommended that the program be given high priority and be implemented in a concentrated effort which will permit the correction of most problems in a short period of time (three to four months) to minimize any further compounding of the problem. Once complete, a new distribution of controlled drawings should be made to eliminate, to the maximum extent possible, the use of non-controlled drawings within the plant.

f) The implementation of a Preventive Maintenance Program should be given greater priority.

g) The backlog of long-outstanding Nonconformance and Corrective Action Reports (NC/CAR's) should be examined periodically (e.g., once a month) to determine what NC/CAR's can be cleared and what action is needed to expedite the clearing of those that remain open. The NC/CAR status report could be a vehicle for conducting this effort and QA should take the lead in expediting resolution and signoff.

h) Management attention should be directed toward improving response to NC/CAR's so as to ensure they are answered within 30 days, even if only a preliminary response can be given.

i) Quality Assurance should examine its philosophy for the issuance of NC/CAR's and use of the NC/CAR System for trend analysis and management information. We recommend the NC/CAR's be written only on items for which corrective action is required (and has not or cannot be performed on the spot) and that other records be utilized for trend analysis (e.g., Quality Data Evaluation Program) and management information (overdue reports/responses identified in appropriate status report, i.e., NC/CAR or Audit Notice Status Reports). We believe that the above actions will improve the effectiveness of the NC/CAR System, reduce the paperwork load on plant personnel, and improve attitudes toward the entire QA Program.

j) Procedure 105 should be rewritten to provide specific guidance concerning emergency maintenance. This guidance should require the use of a job order form to authorize the maintenance, with the shift supervisor and one member of plant management signing in place of the normal initiators. Appropriate notifications and signoffs should be obtained and documented on the job order form, along with descriptions of work being performed, all of which can be added after the fact.

k) The Independent Safety Review Program should be overhauled. Some consideration should be given to establishing a more limited membership and holding regular meetings to discuss safety concerns.

By ensuring that each area of expertise is covered by at least two members, and by requiring them to complete an evaluation sheet for each document distributed to them for direct action, the requirement of Technical Specification Paragraph 6.5.3.1 would be met. Documents could be distributed to all members and any members having concerns could also complete comments sheets or voice their concerns at the next regular meeting. The meeting of the ISRG would then be for the purpose of discussing significant comments made by the membership and making recommendations to management. Documentation of ISRG activities should include comments sheets, meeting minutes, and memoranda expressing saftey concerns.

l) Departments should implement programs which ensure that individual members of the department submit quality documents to the Records Center at required intervals. These programs should also require a means for identifying the documents to be submitted and for ensuring that submittals are complete and in good order.

m) Quality Assurance coverage of health physics activities should be implemented as soon as possible. Suitable expertise in health physics should be acquired by the Quality Assurance Department to set up and administer the program.

n) A management information system should be established for the Job Order System. The system should provide for job order number, date initiated, department assignment, brief description, whether QASL or not, and comments. Additional features could include priority, deferral code (spare parts on order, awaiting shutdown, awaiting refueling, etc.), estimated man hours to repair, and related or concurrent work. Computer programs could then sort the data and provide maintenance supervisors with information to manage and schedule job orders under their cognizance, allow managers to estimate manpower needs or prepare for outages, and allow Quality Assurance to identify QASL jobs of interest. Additional features could include actual man hours expended, a brief description of the results, total downtime, special codes for the system/equipment/components. These features will allow search of the data base for historical data on performance of systems/equipment/components and for preparing external reports (e.g., NPRDS) if desired.

o) Quality Assurance should reduce its involvement in review of plant procedures. Many of the reviews were probably necessary when the QA Program was initially implemented, but this involvement should be reduced and the other departments given responsibility for including quality requirements in their own procedures.

For those procedures for which QA should continue to have concurrence authority, the review cycle should be altered to have QA review prior to PORC review. This will eliminate re-review by PORC while QA comments are being incorporated. Since PORC reviews are more time-consuming, requiring the entire Committee to review the procedure, and since PORC's main function is not to comment or alter the procedure but to pass judgment on its safety significance, this order appears more logical and more efficient.

p) The Site Document Center should improve the turnaround time on document requests, to one day or less. This may require additional equipment and/or staffing, and will certainly require some changes in the administrative procedures for obtaining copies.

q) Storeroom procedures should be updated to conform with current practice of informing requisitioners of the receipt of parts as they arrive, rather than after receipt inspection.

r) The Chemistry Department should participate in an interlaboratory cross check program as described in Regulatory Guide 4.15. Although not strictly a requirement for plant chemistry programs (Regulatory Guide 4.15 covers environmental programs) it is a prudent quality assurance action and is expected to be a future requirement.

s) The Quality Assurance System Boundary and Classification Book should be updated and/or modified so that it is a useful document; or it should be eliminated. If retained, mechanisms should be established to ensure that design changes, component identification, code requirements, and other information are incorporated into the document automatically when master prints or specifications are updated.

t) The Quality Data Evaluation Program (Procedure 4004) should be implemented or Procedure 4004 cancelled. Implementation of this program might be useful in trend analysis and would eliminate the need to use the NC/CAR program for this purpose (see Item "i" above).

u) JCP&L should establish uniform policies and procedures for use of "bench spares" rather than handle each case individually. Long-term goals should be toward the elimination or significant reduction in the number of spare parts which are distributed throughout the plant. A systematic program is recommended to evaluate the acceptability of the "bench spares" currently in the plant, return the acceptable spares to the control of the Storeroom, and replace those spares unacceptable for use.

3.3 Specific Program Assessments

As indicated in Section 1.3, individual program assessments are subdivided into the following broad categories of activities:

- Management and Administration (Section 3.3.1)
- Design Control (Section 3.3.2)
- Records Management (Section 3.3.3)
- Chemistry, Radiochemistry, and Health Physics (Section 3.3.4)
- Maintenance and Modification (Section 3.3.5)

- Procurement and Stores (Section 3.3.6)
- Plant Operations (Section 3.3.7)
- Nuclear Fuel (In-Plant Activities) (Section 3.3.8)
- Training and Qualification (Section 3.3.9)
- Other Programs (Section 3.3.10)

The sections which follow provide detailed evaluations of specific programs described in the implementing procedures and practices of the Quality Assurance Department and other organizations involved in activities covered by the QA Program.

3.3.1 Management and Administration

This section covers the following aspects of the Quality Assurance Program:

- Organization (Technical Specifications, Quality Assurance Plan, Procedure 4001)
- Quality Assurance Document Control (Procedures 2004, 3011)
- Administrative Controls (Oyster Creek 100 Series Procedures)
- Nonconformance and Corrective Action Program (Procedures 2002, 4005, and Oyster Creek Procedure 104)
- Audits (Procedure 4008)
- Independent Safety Review Group (ISRG) (Procedure 2019)
- Emergency Plans

a) Organization: The organization charts included in the Quality Assurance Plan are in need of update following recent changes in JCP&L organizational structure. The new organization appears to be functional and has the necessary elements to be effective, but for the most part had been in place for too short a period to make an assessment of its efficiency. Weakness was noted in four areas of the organization with respect to quality activities.

(1) The Vice President, Generation, apparently has not provided the emphasis necessary to require full implementation of the QA Plan. As a result, major elements of the program have not been implemented in Generation Engineering and Generation Maintenance and Construction.

2) Quality Assurance is too heavily involved in quality control activities and in management activities, i.e., procedure and document reviews to ensure quality requirements are included and direct supervision to ensure quality requirements and administrative controls are met. These first level activities should be returned to the departments responsible for the work, with Quality Assurance performing more surveillance-type activities. As discussed in Section 2.1, it is considered that QA infringement on activities which should belong to other organizations is creating an unhealthy reliance on QA for the entire quality program and an abdication of responsibility for quality by the remainder of the organization.

3) The interface between Generation Engineering and the plant site is weak. There is no engineering organization on site. This situation is expected to improve somewhat with the creation of the Plant Support Department. However, a formal interface which should exist between Generation Engineering and this new department is not indicated on the chart, nor is it evident from discussions with the managers involved.

4) The Independent Safety Review Group does not appear to be a useful organization. Its membership appointments appear to be based on a self-evaluation of expertise. Assignments are made by the ISRG Coordinator to two members of the group with appropriate expertise who have the time to take away from their regular duties. Thirty (30) days are then allotted for the review to be completed. Review assignments are often delayed for long periods waiting for an appropriate group to be available. Even after a review is assigned, the Independent Safety Review Program does not provide timely evaluation of possible safety problems and how has a backlog of over one year in some review areas. To overcome this difficulty, the Manager, Environmental Affairs, has initiated a program wherein he performs a preliminary review to determine if any incoming items should be given priority and also produces a preliminary safety assessment to the requesting organization. This measure may be helpful in identifying urgent safety problems, but does not fulfill the commitment to utilize "the full scope of expertise available..." (Technical Specification Section 6.5.3.3).

The Quality Assurance organization is judged to be functionally satisfactory. However, the current staffing appears to be too small to fully implement the ambitious program outlined in the procedures. Two QA organization positions have been filled by non-JCP&L employees: the Audit Responsible Staff Member and the Site NDE Responsible Staff Member. This arrangement appears to be working satisfactorily but is further indication that the QA Department is understaffed. Additional staffing and/or transfer of some responsibility from QA to other organizations appears necessary.

b) Quality Assurance Document Control: Quality Assurance document control practices appear to be very good. Isolated instances were noted in which controlled distribution copies of the Quality Assurance Manual contained out-of-date procedures (each corrected on the spot). Another instance was noted in which a controlled copy was marked up in preparation of a draft for non-nuclear application, whereas a non-controlled copy should have been used for this purpose. Two instances were noted in which the form specified in the procedure had been superseded but the procedure had not been changed (CAR #20). These occurrences do not indicate a general problem, but may indicate a need to re-emphasize to holders of controlled distribution manuals their respponsibility for maintenance of the manuals, i.e., checking copies against monthly lists of effective procedures, initiating changes when forms are changed, and not making unauthorized changes.

c) Administrative Controls: The administrative portions of the QA Program conform to the requirements of 10CFR50. It is our understanding that JCP&L has not committed itself to full compliance with ANSI N45.2 but has indicated intent to conform to certain of the ANSI N45.2 daughter standards.

The plant administrative procedures (Series 100) were compared, by title, with the requirements of ANSI N18.7 and Regulatory Guide 1.33. This comparison indicated that all areas covered in the standard and the Regulatory Guide are covered by one or more Series 100 procedures. A detailed review of a limited number of Series 100 procedures indicated that their format and content generally conform to the requirements.

d) Nonconformance and Corrective Action: The Nonconformance and Corrective Action Program is administered in accordance with QA Plan requirements. The effectiveness of the system appears questionable, however, because of the large percentage of nonconformance reports which remain unanswered after the 30 days specified for resolution. A sample of several hundred NC/CAR log entries was reviewed and from the dates provided in the log it was determined that less than half (43%) of the NC/CAR's are answered in 30 days. In addition, a large percentage (34%) of the NC/CAR's had been open for periods greater than 90 days. An attempt was made to determine whether certain NC/CAR's should have been issued at all. In some cases, it appeared that some of the problems had been reported through another method (e.g., ISI Report, test report, receipt inspection, housekeeping report, QAIR, etc.). In other cases, the NC/CAR was being used as part of a management information system to indicate that an audit report had not been written, or audit notice answered, or NC/CAR answered within the time limit specified by procedure. While these are, in fact, deficiencies which should be resolved, it does not seem necessary or efficient for NC/CAR's to duplicate other reports. ISI Reports, test reports, housekeeping reports, etc., must all be reviewed, evaluated, and acted upon. Overdue responses to audit notices and NC/CAR's are indicated on monthly status reports. Paralleling these mechanisms with another NC/CAR is considered detrimental to the NC/CAR system because it masks more significant problems in a sea of paperwork. The NC/CAR system does not include any provision to establish the relative importance of NC/CAR's and therefore each is treated with equal importance.

Another problem with the NC/CAR system is that JCP&L is trying to do too much with it. Since the system is computerized, it can be used to sort and count deficiencies in various areas or of specific types. In many instances, NC/CAR's are apparently written to identify a deficiency, even though it may have been corrected on the spot, so that it added to the data base for trend analysis. In other instances, a single problem resulted in multiple deficiency reports. Instead of writing a single NC/CAR to address the problem directly, one NC/CAR was written for each deficiency, apparently to provide historical data on the relative frequency of deficiencies of that type. While this information may be useful or helpful in analyzing trends, this is of no comfort to an individual who must respond to a problem which has already been corrected or who must respond to multiple NC/CAR's to correct a single problem. (In all, 57% sampled could be considered unnecessary.)

The effectiveness and efficiency of the NC/CAR system are adversely affected by:

- Writing NC/CAR's when problems have already been identified by, and are being corrected through, another mechanism;
- Writing NC/CAR's for problems corrected on the spot, or writing multiple NC/CAR's when a single one will suffice.

Jersey Central should consider limiting the scope and usage of the NC/CAR system to the identification and correction of deficiencies which are not appropriately identified and corrected through other means. The use of NC/CAR's should be reserved for significant items of immediate importance or far-ranging implications. Its impact on the recipient should be such that priority is given to its resolution.

The current system may meet QA's needs, but it does not meet the needs of the plant. It is not effective in producing prompt corrective action. It is inefficient because it creates extra work in many cases.

e) Audits: The audit program appears to be effective, efficient, in compliance with regulatory and QA Plan requirements, and well-managed. Three observations are made concerning the administration of the audit program.

1) The audit schedule is not annotated to show actual completion of audits in relation to planned completion. In some cases, audit completion is lagging the schedule by approximately one month, but no audits have been missed.

2) The Audit Notice form does not provide space to indicate recommended corrective action, but the recommended corrective action is contained in the body of the audit report. It is not clear to what extent personnel have available, and can refer to, the complete audit report when answering and closing out each Audit Notice.

3) QA Procedure 2019 indicates that only those audits performed per Technical Specification Paragraph 6.5.3.5 are required to be reviewed by ISRG. Table 6.5-1 of the Technical Specifications (Item "i") requires ISRG review of audit reports and does not make a distinction between ISRG and QA audits. The review team interprets the Technical Specification requirements to require ISRG review of all audits and ISRG review of corrective action (i.e., completed Audit Notices) of the audits required by Paragraph 6.5.3.5. This apparently is not being done, since ISRG now is reviewing only the Technical Specification-required audits.

f) Independent Safety Review Group: The ISRG program, as discussed in Paragraph 3.2.2 c), is ineffective due to the lack of a viable organization; does not conform to the Technical Specification intent for timely review of safety-significant items and, in the case of audits, may not conform to Technical Specification requirements for items requiring review; and is inefficient because the large backlog of items requiring review causes delays in assignment of new items arriving for review.

g) Emergency Plans: The Emergency Plan organization is out-of-date due to changes in the JCP&L organizational structure. The last audit of the Facility Emergency Plan (required every two years by Technical Specifications), was conducted in 1977. An emergency drill, conducted by QA, is schedule for 1979 but an audit is not scheduled. The drill evaluation is issued as a numbered audit report with required corrective action issued as Audit Notices. However, a drill critique does not appear to meet the intent of the Technical Specification requirement for an audit of the Emergency Plan. Other than to conduct the audit for the ISRG, QA apparently has no responsibilities for review of, and concurrence with, the Emergency Plan.

3.3.2 Design Control

This section covers the following aspects of the Quality Assurance Program:

- Design and Modification Activities (Procedures 2006, 6003, 3009, 7005)
- Drawing Control (Procedure 2009)
- Document Control (Procedure 2004)
- Incorporation of As-Built Data into Plant Documents (Procedure 2009)

a) Design and Modification Activities: The Design Control program is not adequate to ensure completion of all steps necessary to control and document a design change. Procedures governing the issuance of drawings have not been developed by Generation Engineering. Design and modification activities do not formally interface with the plant staff (other than PORC) or site Quality Assurance. The PORC function is not a design interface activity to allow plant input; rather, it serves to ensure that no safety problems exist, or could be involved, in the proposed modifications.

All design activities are apparently performed in Morristown, checked by Morristown Quality Assurance, and forwarded to Sayreville for preparation of installation documentation without input from plant personnel. Interviews indicated that recent plant modifications, such as the fire protection system modifications, were designed without any plant input. Resulting problems included:

1) Lack of necessary equipment on site to support installation. Additional torque wrenches were purchased and calibrated using plant equipment calibration funds for the maintenance department;

2) Inadequate consideration was given to future routine maintenance activities. There were instances in which items requiring access for maintenance were to be placed in non-accessible locations. In other instances, sprinkler nozzles were to be placed in positions which blocked normal access to instrument panels.

These problems were solved in the field, but would have probably not occurred if plant staff had had some input into design and installation plans.

b) Drawing and Document Control: The general state of the master drawing file is poor. Drawing control measures are not implemented. Although these are two separate findings, they are discussed together because of their interrelationship.

Master drawings are often blueprints or worse, rather than sepias. As changes are made to such drawings, sepias are being made. However, no systematic effort is being expended to purge the files of these drawings. The aperture cards made from these poor-quality drawings are generally unusable. This has resulted in the creation of individual department files which contain unofficial and uncontrolled documents and drawings which are used instead of the controlled copies. In addition to their illegibility, users generally consider that the master drawings are often not up-to-date. These conditions are noted frequently enough that personnel no longer follow the mechanisms set up to identify aperture cards which are of unsatisfactory quality or prints which are wrong.

Procedures governing drawing issuance and control have not been issued (Procedure 6010 is referenced for this activity). Current poor drawing control practices include:

1) Revising vendor prints but retaining the vendor's drawing number.

2) Not using a consistent set of symbols.

3) Variations in the method of numbering revisions (some are A, B, C; others 1, 2, 3).

4) Not indicating the existence of outstanding changes against a print when it is issued to a user.

5) Basic identification of components (on drawings and on components themselves) appears deficient in that not all components are identified, and in some cases some components are identified with more than one number.

6) The drawing index sorts and lists drawing numbers without putting them in true numerical order (i.e., BR-1, BR-10, BR-11, BR-12; BR-2; BR-2279; BR-3; etc.).

While a program is underway to upgrade plant drawings, this is being attempted with the normal drafting staff complement which is currently undergoing turnover. To complete this task in a timely manner, the staff needs to be increased and the personnel involved stabilized.

It is strongly recommended that Engineering promptly develop and issue Procedure 6010; establish a program to upgrade the master drawing file to readable and accurate prints; and set up the drawing index in a more usable order.

The Procedure should be first priority. The program to upgrade prints must involve all Oyster Creek personnel, with a streamlined mechanism for them to identify the prints which are unacceptable. Once the magnitude of the effort is identified, the Drafting Department should be staffed to permit timely correction of problems. The drawing index appears to be sorted by a computer program. It appears that by either modifying this program or formatting the print number differently and using the same program, the index problem could be eliminated.

3.3.3 Records Management. This section covers the following aspects of the Quality Assurance Program:

- Identification of Quality Documents (QA Plan, Procedure 2005)
- Submittal, Storage, and Retrievability of Quality Documents (Procedures 2004, 2005, 2009, 2014, 2025)

The Records Management Program is marginally effective in indexing quality documents, storing them, and retrieving them. The program is weak in the area of submittal of documents because it leaves the periodic submittal of documents up to the individual with no checks or verification that required submittals have been made. Many instances were noted wherein individuals were holding records which should have been submitted to the records facility. An instance was noted wherein a design report was in the possession of an individual and had never been entered in the system.

The efficiency of the Records Management Program varies between the site and the staff records center. The site center appears to be extremely efficient at storing documents, while the staff center has a large backlog. On the other hand, although retrievability appeared to be equal at both locations, a copy of a document can be obtained in a matter of minutes at the staff center on a verbal request only, while a delay of up to a week is the rule at the site center where a written request is required. These differences appear to be related to the different manner in which the centers are utilized; however, the staffing, equipment and space requirements of the two centers should be reviewed and the appropriate changes made to adapt each center to the needs of the location it supports.

A major weakness of the current Records Management System is the lack of an inventory of the contents of the files. In theory, the two document centers maintain identical files. However, instances were noted where documents requested from one center had to be obtained from the other document center. An inventory of the contents would be indispensable in determining what was supposed to be in each file, and would permit periodic verification of the consistency of duplication of files between centers.

The system for indexing records is a major weakness in the records program. An indexing manual provides for primary, secondary and tertiary file categories which can be combined into a file number. The individual submitting a document to the records center is responsible for assigning it a file number. Some care is required to select a meaningful set of codes but there apparently has been no significant training of personnel in the use of the system, nor does there appear to be any great emphasis placed on the importance of assigning a proper file category.

It is the opinion of the reviewer that a much larger and better trained records center staff is required to manage and control QA records.

A full time records manager should be appointed and charged with responsibility for bringing both records centers to a point such that users can develop confidence in the system. Many instances were found in which individuals expressed reluctance to release their records to the center because they genuinely felt they would never be able to find them again.

There appears to be no systematic approach to defining the types of QA records which each department must submit to the document center. Each department should be required to examine the requirements of ANSI N45.2.9 and to then prepare a list of the types of records they expect to generate. At the same time, they should also indicate the file categories to be assigned to each record type. These file categories should be reviewed and concurred in by the records center staff.

Records center personnel should be given extensive training in the details of the jobs they are expected to do. They should understand the basis for having a records center and should have some orientation and basic understanding of what is actually involved in designing, building, and operating a power plant. They should become familiar with the terminology used in engineering and operating a power plant. System and component names and their basic functions in the plant should be included in records personnel indoctrination.

Also, they should be aware of the overall site layout and the names, functions and contents of the major buildings and structures. A plant tour should be included in the training to make it more meaningful and to further emphasize the importance of understanding the relationships between the records and the hardware.

Once the records center staff is appropriately trained, they should perform most of the indexing. This is the only way to assure consistency and accuracy in filing and to improve the probability that a given record can be retrieved.

The ultimate goal should be the development of a fully integrated records system which meets the needs of all departments involved with the nuclear plant work. We strongly recommend that the system provide for:

(1) Clearly established relationships between the records and the components to which they apply;

(2) Submittal of complete record packages for filing rather than isolated individual records;

(3) Definition of types of record packages which bears a clear relationship to the way work actually gets done (i.e., the work which generates the record);

(4) Indexing of records in a manner which has a clear relationship to the way record users actually think about their work (e.g., by system, by component, by function, etc.);

(5) A continuously updated inventory of the records center contents, sortable in various ways to permit review of actual file contents to aid in filing and retrieval.

(6) A comprehensive listing of all components in the plant, along with significant design, procurement, and operating data which can serve as a ready reference for basic information about a given component and can provide assistance in locating more detailed information in the records system.

3.3.4 Chemistry, Radiochemistry, and Health Physics

This section covers the following aspects of the Quality Assurance Program:

- Chemistry and Radiochemistry (Oyster Creek 800 series Procedures)
- Health Physics (Oyster Creek 900 series Procedures)

a) Chemistry and Radiochemistry

The Chemistry and Radiochemistry quality control activities appear to be effective and efficient. These activities comply with regulations, standards, and regulatory guides with the possible exception that there is no interlaboratory cross check program per Regulatory Guide 4.15. This Regulatory Guide covers environmental programs and may not be considered applicable, but we believe the principles involved constitute good laboratory quality control practices.

The in-house program for analysis of duplicate and spiked samples is considered very effective but should be supplemented by periodic comparison and verification with an independent laboratory through split sample analysis or additional spiked samples prepared by the independent laboratory.

b) Health Physics

Health Physics activities are not currently covered by Quality Assurance. In the opinion of the review team, Quality Assurance coverage should be implemented for all health physics activities.

Although neither 10CFR 50 Appendix B nor 10CFR20 specifically identify a requirement for Quality Assurance program coverage of health physics activities, health physics activities must be considered safety-related since these activities are directly involved in the identification and mitigation of radiological accidents.

It is recommended that site QA take immediate steps to implement QA coverage of health physics. Coverage should include surveillance of H.P. activities, review of H.P. records, and establishment of QA controls on H.P. procurements (qualification of suppliers and contractors). An individual with a strong H.P. background should be assigned by QA to implement this program.

One of the most significant findings in this segment of the review is that Radiation Technicians do not meet ANSI N18.1 experience requirements. Although the QA Plan indicates that the job description shall take precedence over ANSI N18.1 requirements, the minimum entry level qualifications specified are not adequate to ensure competence in H.P., and no training is provided to upgrade to a minimum level of competence before assignment to the department. On-the-job training is apparently conducted over a 90-day period, but without some basic training in principles and practices beforehand, the technician's understanding of his job responsibilities and authority is at best tenuous. Under these circumstances, it is not surprising that a technician should develop poor attitudes toward his work, and toward the other people he is expected to protect. Interview comments from many people generally reflected unfavorably on the H.P. technician's job knowledge, performance, willingness to cooperate, and ability to make a constructive contribution toward completion of any given job.

Following are several specific quality problems that were noted in the health physics area:

(1) The supplier of thermoluminescent dosimeters is apparently not zeroing them as required;

(2) The computer program for tabulated cumulative dose is apparently in error and the results are being corrected by hand;

(3) The recent changes in procedures governing Radiation Work Permits may be too lax to be considered as meeting ALARA requirements;

(4) The ALARA committee was not (at the time of certain interviews) accomplishing its intended purpose.

3.3.5 Maintenance and Modification

This section covers the following aspects of the Quality Assurance Program:

- Equipment Maintenance Program
- Instrument Maintenance Program
- Instrument Calibration Program (SQAI-008)
- Control of Special Processes (Procedures 7006, 7008)
- Inspection (Procedures 4026, SQAI-004, SQAI-005)
- Test Control (Procedure 2010)

- Control of Measuring and Test Equipment
- Modification (Procedures 2006, 6003, 7005)
- In-Plant Work by Outside Contractors
- Safety Related Equipment Lists (Procedure 2016)

a) Equipment Maintenance

Non-emergency maintenance is reasonably effective and appears to be under control, even though a great deal of manual clerical work is required for scheduling and tracking.

Emergency maintenance is not properly controlled. Procedure 105 permits work to be performed without a procedure if a shift supervisor and one member of management approves. However, emergency maintenance is generally performed without any job order, sign-offs, or other controls or documentation, solely on the verbal authorization of the shift supervisors. QA is sometimes informed if QASL work is involved, if it is recognized as such by the shift supervisor or maintenance technician and if they remember to do so. After the job is completed, paperwork is backfitted to indicate what was done and to get the appropriate sign-offs. This practice should be abolished as it violates most, if not all, of the controls placed on maintenance and modification. It would appear that the intent of Procedure 105 is to allow emergency work to proceed without a step-by-step procedure, but not without the necessary written authorizations, notifications and closeouts. A job order form should be required for all work, emergency or not, with the only difference for emergencies being that the procedure portion of the job package is added later to document actual work performed. The present system suffers the following faults:

(1) Emergency maintenance could be performed without the authorization of the shift supervisor and one member of management as required.

(2) Emergency maintenance could be performed on QASL systems without appropriate quality requirements.

(3) If the individuals involved fail to initiate the paperwork after the job, it might never be documented at all. There are no checks to prevent this.

The paperwork governing the performance of maintenance is of such magnitude that first line supervisors are overwhelmed to the point where actual supervision of work in progress or training of personnel suffers. Specific recommendations are made in Section 2.4 for reducing this load and achieving better control.

b) Preventive Maintenance

The plant does not have the necessary plan or staff to conduct a meaningful preventive maintenance program but they do have a program for lubrication and maintaining oil levels. There was no evidence of any controls on procurement of oils and greases for safety related equipment. Likewise, there was no evidence of any formal documented program for assuring that oils and greases actually used on safety related equipment conform to the requirements stated in the manufacturer's instruction books.

In discussion with central maintenance personnel, we learned that a company-wide (perhaps GPU-wide) effort is underway to set up a computerized system for scheduling, controlling and verifying preventive maintenance at all plants. However, the timetable for implementation appears to be something like five years to indefinite. In the opinion of the reviewers, this is not acceptable for Oyster Creek. A preventive maintenance program should be defined and staff provided to implement it as soon as possible.

c) Control of Special Processes

The primary activity reviewed here was welding and weld inspection. There is a program for control of welding procedures and for qualification of procedures and welders. The welding supervisor and welding instructor appear to have the necessary experience and qualifications to perform their assigned responsibilities in accordance with the ASME codes.

The mechanics who have qualified for welding also showed a good understanding of their responsibilities and the importance of adhering to procedures and producing good quality welds in general and on safety related systems in particular. Their biggest concern was the relatively small amount of welding which they felt was insufficient to maintain proficiency, even with the periodic retraining and practice time provided by the welding supervisor.

The contract employee performing Non-Destructive Examination work also seems quite knowledgeable and qualified for his work assignment.

The biggest question mark with the welding program seems to involve gray areas where responsibilities and authorities are not clearly defined. In some instances, QA personnel may be making decisions on welding or weld inspection matters which they are not necessarily qualified to make. In some instances, QA may call on people outside the QA department who do have the necessary qualifications to decide a particular question, but may fail to follow the advice or recommendation offered. It appears that misunderstandings then develop which are further aggravated by jurisdictional disputes and possibly personality conflicts. The situation may then be worsened by managerial action which does not include consideration of all of the technical and quality requirements involved. (A specific example of this type of problem, as we perceived it, is described in our Corrective Action Notice No. 25 in Exhibit 5.2.)

A satisfactory resolution of this problem must be reached if quality of welds is to be assured on a consistent basis. We believe the solution must include the following:

(1) Selection of qualified personnel and assignment to the appropriate department (QA, Engineering, Maintenance) where their particular skills are needed;

(2) Clearly defined responsibilities and authority for each department and for each individual in each department;

(3) Clearly defined procedures for referring and resolving disputes arising from soundly based differences of opinion or interpretation;

(4) Complete management confidence in and support of each individual within his assigned area of responsibility and authority;

(5) Commitment by management to fully implement the decisions, recommendations and findings of the individual with primary responsibility;

(6) Commitment by management to require sound technical justification and complete documentation in those rare instances when the findings of the person with primary responsibility are not followed.

d) Instruments, Measuring and Test Equipment

The maintenance, calibration and control of instruments, and of measuring and test equipment is satisfactory. However, the problem of qualifying "bench spares", discussed elsewhere in this report, also prevails in the instrument shop.

e) Test Control

The procedures and practices pertaining to control of testing within the plant appear to be satisfactory. Testing work in the plant is performed primarily by operating personnel. There appears to be a logical and workable scheme for initiation of post-maintenance and post-modifcation testing. However, there apparently is no procedural mechanism by which Engineering can request a test to develop information needed prior to a modification or major maintenance activity. (Also see paragraph 3.3.7-f.)

f) Modifications

Because virtually all modifications are handled by Engineering and Central Maintenance, this is discussed in Section 3.3.2.

g) Inspection

The plant maintenance people have virtually no inspection responsibility and the QA personnel assigned to perform inspections in the plant have both limited time and limited experience for inspection work.

The nature of plant maintenance work is such as to clearly support the creation of first level QC inspection group within the plant organization. It should be staffed by people who have craft experience in the areas they will inspect, and/or who have had actual inspection experience in related work, and who have been formally trained in the requirements of the JCP&L QA program.

h) In-Plant Work by Outside Contractors

Although there was very limited treatment of this matter during this review, it is apparent that outside contractors work under the direction of Engineering and/or central maintenance. Procedures for scheduling, controlling access, and monitoring quality appear to be satisfactory within the limited scope examined.

i) Safety Related Equipment Lists

The QA-System Boundary and Classification book delineates the portions of systems which are or are not safety related. This document has not been updated since 1977, is generally not considered to be a useful tool and, in fact, is not used as intended. Procedure 105, Appendix A, the QA Systems List (QASL) and the QA Plan Appendix A are generally used to determine which work is covered by the QA Program. Where applicability is not certain, Generation Engineering is requested to make a determination. Either this Boundary Book should be brought up to date and maintained so, or it should be abolished. If the latter, then procedures should be changed to reflect actual practices.

3.3.6 Procurement and Stores

This section covers the following apsects of the Quality Assurance Program:

- Procurement Document Control (ANSI N45.2.13) (Procedures 2001 2011, 4016, 4025)
- Control of Purchases Material, Equipment, and Services (ANSI N45.2.13)
- Identification and Control of Material, Parts and Components (ANSI N45.2.13) (Procedures 2026, 3005)
- Handling, Storage and Shipment (ANSI N45.2.2) (Procedure 4018)
- Non-conforming Materials, Parts and Components (ANSI N45.2.13) (Procedures 2002, 3005, 4005)
- Supplier Qualification and Selection (Procedures 4010, 4020, 4022, 4023)

- Receipt Inspection (Procedure 3003, SQAI-10)
- In-Plant Inspection/Release to Shop Receiving Inspection

Procurement and stores activities suffer from many inherited problems including lack of necessary facilities and incomplete inventories. These problems have all been identified and excellent progress is being made to correct them. The materials management personnel all demonstrated a good understanding of nuclear plant material requirements and a desire to bring their efforts into conformance with the QA Program requirements as soon as possible.

a) Bench Spares

The single major problem with the current stores situation is the existence of several thousand non-controlled "bench spares" distributed throughout the plant. These parts were supplied as part of the initial outfitting of the plant, long before current QA requirements were implemented. In many cases, these spares are no longer available from qualifiable vendors and no substitute is identified. The use of these spares is accompanied by many wasted hours of effort to try to meet current QA program requirements. Time must be spent attempting to trace the part to a purchase order (virtually impossible), trying to determine if a certified spare could be procured (usually not or only in batches of 1000), and finally determining what inspection/test/certification requirements should be imposed (usually a visual inspection prior to use to obtain QA release and a functional test after installation to verify operability).

Although many thousands of these parts exist, it has been the practice to handle their usage on a case by case basis. This policy is shortsighted and does not solve the basic problem that these parts cannot meet current QA program requirements, nor are parts available that would meet the QA program requirements. A systematic approach to this problem is required to identify those parts which fall into this category. Once a part is so categorized, it could then be issued for use without the wasted effort of trying to make it meet requirements that it cannot meet. Such parts once identified should be controlled to prevent deterioration by returning them to the storeroom for storage under properly controlled conditions.

b) QA Monitoring of Procurement

Procurement verification activities by Quality Assurance appear effective at headquarters. Until recently, the function was performed by a single individual, but it is now recognized that at least two individuals are necessary to carry out the necessary procurement review and vendor evaluation activities and a second person is now assigned.

Recent efforts to put the Contractor Classification List in computerized format appear to improve the efficiency of update and verification of the list. There were six Class I contractors whose N-stamp had expired and 8 Class II and III contractors with expired N-stamps. For other Class I, II and III contractors, there was one with a minimal QA Program; 3 with no documented QA Program; 6 with either program manual or personnel changes which required re-evaluation; 2 noted as adequate for standard work but not for nuclear safety related work; and 3 restricted to working to the requirements of the JCP&L QA Program. Although there are many vendors on the list whose qualifications were restricted, or had expired, notations on the list clearly indicated these factors.

Governing procedures have not yet been updated to address the computerized system. Once the "bugs" are worked out, the procedure should be revised and the list more fully updated.

c) Receiving Inspection

Receipt Inspection activities at Oyster Creek appear to be reasonably effective. Several comments were made during the interviews with plant personnel which indicated that QA had often made technical decisions to accept or reject a part without knowledge of the intended application. Plant personnel feel that they, not QA, should evaluate whether a deviation from requirements is acceptable. Plant personnel also expressed an opinion that, on occasion, QA had opened sealed containers to examine parts when the containers were conspicuously marked with warnings that breaking the seal other than immediately before use would result in deterioration of the part. Several parts had later been rejected because of corrosion or deterioration due to handling sealed parts. Progress is being made towards better communications and streamlining the receipt, inspection, notification and release process. As a further improvement for resolution of deviations in purchased parts, formation of a Material Review Board is recommended, similar to those already functioning in the aerospace industry. This should bring Engineering, Procurement, Operation and Maintenance expertise into the problem, in addition to QA.

d) Procurement Document Control

Several individuals expressed opinions that procurement document review by QA was inconsistent, particularly at the site. Ordering the same or very similar parts for similar applications had resulted in different requirements being included in the procurement. It is general practice, as stated in the QA procedures governing procurement, to specify more rigid requirements for vendors who have marginal classifications than for vendors with better classifications. This practice could appear to be an inconsistent application of QA requirements which would seem rather arbitrary to a maintenance foreman attempting to order parts, only to have his purchase requisition returned to add further quality requirements.

It is apparent that additional training and/or guidance is required at the foreman level on how to determine appropriate quality requirements on their purchase orders. If QA personnel are being inconsistent and arbitrary, additional training and guidance is needed for QA as well.

3.3.7 Plant Operations

This section covers the following aspects of the Quality Assurance Program:

- Technical Specification Compliance (Technical Specifications)
- Plant Operating Procedures (Regulatory Guide 1.33)
- Response to Alarms
- In-Plant Core Management
- Surveillance Testing (Technical Specifications) (SQAI-008)
- Post-Maintenance Testing (SQAI-004)
- Post-Modification Testing (ANSI N45.2.11) (SQAI-004)
- Refueling

a) Technical Specification Compliance

Quality Assurance performs no routine monitoring to verify that plant limiting conditions for operation are complied with, other than an annual audit performed for the ISRG. Programs for QA surveillance of operations are being developed. Operations Department internal procedures for monitoring for Technical Specification compliance appear adequate.

Conduct of Operations, Paragraph 4.4.6, does not require the control room operator to log start and stop time for any Technical Specification noncompliance. Noncompliance as used here means a condition which exceeds a Technical Specification limit such as minimum operability of equipment. The Technical Specifications generally will permit such a condition to exist for short periods of time before correction is required (i.e., 12 hours). A Technical Specification violation does not occur until this situation has existed without correction for a period greater than permitted by Technical Specifications.

There is also no place on the shift turnover to indicate imminent Technical Specification noncompliance which exists at shift turnover. Although it is probable that such conditions may be listed under "any other unusual conditions," status of LCO's is considered important enough to require a specific log entry.

Based on the clearly demonstrated need throughout the industry for better bookkeeping on plant status, we strongly recommend that requirements be set up to:

(1) Complete a routine check for Technical Specification compliance at least once per day and log the results.

(2) Require that all oncoming shift supervisors and reactor operators sign the Technical Specification compliance log indicating that they have read and understand the status of the plant.

(3) Require that the senior operations manager (or his alternate) on site each day sign the Technical Specification compliance log indicating cognizance of plant status.

(4) Provide that QA surveillance of operating activities includes verification that these procedures are being followed on a consistent basis.

b) Plant Opearating Procedures

Plant Operating Procedures (200's, 300's, 400's, 500's, 600's) and Surveillance Testing are not reviewed by QA (not required by QA Plan). Since the QA staff does not have a licensed operator, it may not be in a position to evaluate these procedures. However, some of these activities do contain quality requirements (e.g., Surveillance Test procedures contain as found/as left data blocks, accept/reject criteria, etc.) and Quality Assurance should include some procedure review within the scope of the QA surveillance.

Selected Plant Operating Procedures reviewed in the course of this review comply with ANSI N18.7-1976 requirements for format and content.

c) Response to Alarms

The Oyster Creek procedures for response to alarms are contained in Procedure 501, Annunciators and Alarms. This instruction complies with ANSI N18.7-1976 and Regulatory Guide 1.33 requirements.

d) In-Plant Core Management

In-Plant Core Management activities appear to be effective and are performed and checked by well-qualified, competent people. Efficiency is achieved through use of various computer routines to ensure documentation of core performance data and determine optimum configurations.

Quality Assurance has performed some surveillance of this area and evidently has been able to detect at least one program error. However, QA does not possess the expertise needed to perform authoratitive, independent check of core management activities. It is understood that GPU does have some expertise in this area, but because of its involvement in the initial setting up of the core management program may not provide an independent viewpoint.

It is recommended that JCP&L undertake to provide a periodic audit of core management activities from a technically-qualified independent source or obtain the necessary expertise in the QA Department to perform these checks.

e) Surveillance Testing

Surveillance Testing procedures and activities appear to be effective. Technicians expressed a concern that many of these tests were performed in an inefficient manner. Quality Assurance surveillance of Surveillance Testing appears to be efficient and well-planned. The effectiveness of the QA surveillance, however, appears to be hindered somewhat by friction between technicians and QA staff. Some of the problems, such as QA members interrupting critical steps to question technicians, seem to have been worked out. Additional efforts need to be made, however, to improve the working relationship in this area. It is noted that this activity is performed almost exclusively by one member of the site QA staff. This activity should be rotated among those members of QA with operational or instrument experience to provide a broader outlook. The plant staff recognizes that QA has made a contribution in this area to improve both the Surveillance Test procedures and procedural adherence in performing the tests.

f) Post-Maintenance and Modification Testing

Operability checks are specified in the Tag Procedure, both prior to taking equipment out of service and after returning to service. Job Orders control specific post-maintenance/modification verifications in the job package. Job closeout requires QA signoff which ensures product verification inspection (SQAI-004) if specified in the QA job package. The combination of the procedures meets the intent of ANSI N18.7-1976. No opportunity was available to verify the actual performance of these activities during the review.

g) Refueling

Refueling planning, performance and control were discussed with the same personnel involved in core management and analysis work. The procedures for moving fuel and for nuclear material control and accountability appear sound.

Additional technical expertise in, or available to, the QA Department would enhance the ability of QA to monitor this activity.

3.3.8 Nuclear Fuel

This section covers the following aspects of the Quality Assurance Program:

- Safeguards and Accountability
- Inspection
- Storage
- Shipment

A review of procedures indicated that the necessary instructions had been issued governing nuclear fuel. JCP&L Quality Assurance has relatively little involvement in nuclear fuel, since GPU Service Company handles procurement and vendor inspection activities. Fuel receipt inspection is performed by QA with a fuel vendor (Exxon) representative. This activity appears to be effective, efficient, and in conformance with regulations. The only item of significance noted was the large number of nonconformances written on the fuel which have remained outstanding for long periods. Those pertaining to tripped accelerometers noted on receipt inspection should be closed out based on satisfactory completion of receiving inspection on the fuel and acceptance of the fuel for use.

3.3.9 Training and Qualifications

This section covers the following aspects of the Quality Assurance Program:

- QA Training (Non-QA Personnel) (Procedure 4002)
- QA Department Training (Procedure 4002)
- NDE Training and Qualification (Procedure 4015)
- Licensed Operator Training (10CFR55)
- General Employee Training (ANSI N18.1)
- Special Skills Training (Procedures 5002, 6002, 7002, 7006)
- Plant Staff Qualifications (ANSI N18.0) (Procedure 5001)

a) QA Training (Non-QA Personnel)

Quality Assurance training for non-QA personnel has not been conducted since an initial indoctrination program several years ago. General employee training does not currently include any QA indoctrination.

No training has been performed to acquaint personnel with the major revision to the QA Program issued in mid-1978. This lack of training has resulted in a low level of knowledge of specific QA requirements. For example, one individual interviewed stated that he had been involved in identifying components not currently numbered on existing prints and had not known, until very recently, of the existence of the Quality Assurance System Boundary and Classification Book - which had already assigned numbers to many of the components he was attempting to number. There is a real need for QA training and retraining, including initial orientation; specific QA training related to each department's activities; and advanced QA orientation for supervisory personnel.

b) QA Department Training

QA Department training is not being conducted as required. Once an individual has reached a status where he is no longer considered in training, there is no program to train him further. By procedure, individual members of the QA Department are periodically evaluated for job performance and training needs. In practice, no training needs have been identified thus far. The net result is that, except for an initial orientation of new QA personnel, almost no training is conducted. Only three training sessions were listed for the past year, and these were not scheduled in advance. There is a need for a formal plan for training of QA personnel to broaden them in aspects of the program which are outside their immediate job assignments. This training should also include basic engineering orientation to Oyster Creek systems and plant operations. Attempts should be made to send individuals to seminars or training sessions outside the company to learn how other organizations approach quality assurance.

The need for initial and continuing QA training is particularly acute at the site. The site QA organization has limited educational background and experience, and site QA tasks appear to be overly-specialized. Although as a whole the site QA organization has a broad range of capabilities, individual members of the organization do not have a broad knowledge and experience nor the necessary technical and administrative skills to manage a nuclear facility QA Program. The site QA staff does not have a single college graduate in an engineering/scientific discipline or in management, nor does the staff have personnel experienced as licensed operators.

Specific site QA tasks and programs (e.g., general surveillance, receipt inspection, etc.) are usually performed by only one or two individuals in the organization. This limits opportunities for individuals to broaden their QA and technical skills. It may result in personality clashes between the individual performing the surveillance and the individuals or organizations whose activities are being monitored.

As a short-term solution, consideration should be given to systematic rotation of QA personnel to ensure that each individual is involved in the full breadth of the QA Program. Site QA personnel should be encouraged to broaden their engineering and operational knowledge through college-level courses; special training; and work toward an operator's license. Over the long term, several of the job descriptions of the QA site organization should be upgraded to require a college education or generally-accepted equivalent, and at least one job description in the organization should require an operator's license or equivalent. These changes should be made as openings occur and should not be used as justification for ousting incumbents.

We feel very strongly that this level of upgrading and improvement in qualifications and training is essential to re-establish site QA morale and improve the effectiveness of the QA Program.

c) NDE Training

NDE training and qualification of inspectors is currently not being performed, since NDE personnel are contracted for rather than using in-house personnel. Some NDE orientation is considered highly desirable for members of the QA staff, and should be set up as part of the departmental training program as discussed above.

d) Licensed Operator Training

Licensed Operator training is not covered by the QA Program other than periodic auditing performed for the ISRG, which is essentially a records review. Although the state of training of the operators at a nuclear plant (i.e., the effectiveness of its training program) is a legitimate safety concern for its management, there is little further that Quality Assurance could or should do to monitor the quality of the training program.

e) General Employee Training

The General Employee Training Program does not provide Quality Assurance indoctrination. The health physics indoctrination is considered inadequate to provide new oersonnel an understanding and appreciation for health physics requirements on the job. Classroom lectures should be supplemented by actual "hands on" health physics experience, particularly for those persons required to be qualified in self-protection health physics.

Improved training will help to improve employee attitudes toward health physics and should result in better cooperation with the Health Physics staff.

f) Special Skills Training

Special Skills training is non-existent at this time. It is understood that programs are under development in the maintenance area but have not yet been implemented.

g) Plant Staff Qualifications

Plant staff qualifications were compared to ANSI N18.1 requirements. Minimum requirements for personnel in Health Physics and Chemistry (no experience; high school diploma, and high school chemistry and physics) are considerably below the ANSI requirements (minimum of three years' related experience). The ANSI standard requires a training program for personnel not meeting minimum requirements. Such a training program has been developed and is used for Chemistry Technicians. However, no program other than on-the-job training is provided for Radiation Technicians. Although the QA policy documents indicate job descriptions will take precedence over ANSI requirements for Bargaining Unit personnel, the minimum requirements for Radiation Technicians, in the absence of a formal training program, is considered inadequate to support the Health Physics program.

Another requirement of ANSC N18.1 is that the Plant Manager or one of his principal alternates must possess a four-year bachelors degree in an engineering or scientific field. While the current Oyster Creek staff meets this requirement, the Technical Specifications, Section 6.3, do not specify this requirement. Since the Quality Assurance Plan specifies that the staff qualification requirements of the Technical Specifications have precedence over Regulatory Guide 1.8 requirements (implements ANSI N18.1), this situation conforms to the requirements of the QA Plan. Since any further action to comply with the ANSI standard would apparently require a Technical Specification change, no further action is recommended.

3.3.10 Other Programs

This section covers the following aspects of the Quality Assurance Program:

- General Surveillance (SQAI-12)
- Issuance and Release of Stop Order (SQAI-007)
- Document Review (Procedure 4006, SQAI-008, SQAI-15)
- Quality Data Evaluation (Procedure 4004)
- Preparation and Use of QA Check Lists (Procedure 4012)

a) General QA Surveillance

The General Surveillance program is being conducted effectively, efficiently, and in conformance with the procedure. Initially, general surveillance deficiencies were noted on both the general surveillance inspection report (a QAIR) and on a nonconformance report (NC/CAR). More recently, the approach has been to route the QAIR to the various departments for information and appropriate action without writing nonconformances unless there are problems requiring immediate action. This somewhat lower-key approach has been well received by the plant, has reduced part of the paperwork load, and is apparently effective in resolution of the deficiencies noted.

b) Stop Work Orders

Stop Work Orders were used so infrequently (less than once per year) that it is impossible to assess whether this program is effective. Apparently the very existence of this authority has, in itself, been enough clout to ensure consideration of QA requirements without resorting to a Stop Work Order.

c) Document Review

Document Review activities are effective and conform to the procedural requirements. Document reviews are usually conducted within a reasonable length of time, and re-reviews are limited to those areas of initial comment. Two areas of this program appear to be inefficient, however. First, the volume of material requiring QA review appears to be excessive. QA appears to review a large number of plant procedures to ensure QA requirements are specified. While this may have been required initially at the time of establishment of the program, it could be dispensed with at this time. Individual departments should determine what QA requirements are appropriate and should determine what changes in their procedures are significant enough to warrant QA review.

In the monitoring of plant activities through surveillance and audits, QA will have ample opportunity to verify that departmental activities and procedures conform to QA requirements. Elimination of some of the document review activities appears desirable, in that it shifts more responsibility for QA to plant personnel, requiring them to become more involved in the program, and it reduces the workload of the QA Department. Because QA retains sufficient means to ensure compliance with the program, it should not reduce QA's effectiveness.

Additional improvement in document review efficiency could be achieved by altering the order in which documents are routed for review. Currently, QA review occurs after PORC review and any changes must be resubmitted to PORC. The order could be changed to require QA review before PORC review, thus eliminating re-reviews by PORC. The PORC function is not to comment on or change procedures, but is to determine their safety significance.

Unnecessary procedure review should be eliminated, and necessary review performed prior to PORC review.

d) Quality Data Evaluation

The Quality Data Evaluation (QDE) program has not beem implemented. This program should either be implemented or eliminated. Currently, the NC/CAR program is being used to conduct trend analysis. As discussed in Section 3.3.2 a), this dilutes the importance of individual NCR's because some are issued primarily to provide a base of historical data rather than to initiate corrective action. Therefore, an alternate system, such as QDE, to develop a data base for trend analysis might help reduce the use of NCR's for this purpose. Since the QDE program is currently not implemented, it is not known whether it can fulfill this need satisfactorily.

e) Use of QA Check Lists

Preparation and use of QA Check Lists is effective and in conformance with procedure. The check list format was developed to support the QDE program and is believed to be somewhat cumbersome. This format should be simplified if the QDE program is not going to be used.

3.4 Corrective Action Notices

In the course of this review, there were a number of circumstances noted which were of a nature that warranted notification of the need for corrective action. This was accomplished via NPC's Corrective Action Notice forms, all of which are included here as Exhibit 5.3

Corrective Action Notices 1 through 22 were transmitted to JCP&L as preliminary on 10/16/79 via Reference 4.9.

Corrective Action Notices 23 and 24 have not been transmitted to JCP&L previously but were discussed with JCP&L personnel at the time they were written.

Corrective Action Notice 25 has not been transmitted to JCP&L previously. However, the problem was discussed fully on the telephone with Mr. Ivan Finfrock on 11/15/79 and was further discussed with Messrs. Finfrock and Gaines at JCP&L on 11/27/79.

APPENDIX 4

JCP&L GPU

Jersey Central Power & Light Company
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960
(201) 455-8200

March 17, 1980

Mr. Victor Stello, Jr., Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stello:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Inspection Report No. 50-219/79-18

This letter is in response to your letter of February 20, 1980, regarding the findings of the inspection conducted by the NRC Performance Appraisal Branch (PAB).

Enclosed as Attachment A are the responses to each of the items of alleged noncompliance. Attachment B, also enclosed, describes the actions which Jersey Central Power & Light Company (JCP&L) has taken, or has future plans to take, to improve our overall management controls in each of the seven areas requested in your letter.

You will note that many of the actions we plan to take to improve our overall management controls will involve a substantial strengthening of our operating organization. It is our goal to proceed as quickly as we can to obtain the experienced people where possible and conduct the needed specialized training programs if the required talent is unavailable in the industry. Any realignment of our organizational structure which requires Technical Specification Changes subject to NRC review and approval will be promptly submitted. In any event, it is our objective to enhance our program in an orderly fashion so as not to unduly upset or impede the safety of programs we presently have in effect.

As you know, the intention to form a new GPU Nuclear Subsidiary has been announced; and it is anticipated that our Oyster Creek operation will become part of the new subsidiary. The actions we have proposed in Enclosure B are consistent with present plans for the new subsidiary but are not contingent upon its eventual formation. We believe, however, that the formation of the new subsidiary will even further strengthen the effectiveness of our organization.

Regarding your request for a meeting with the Director of the NRC's Region I to discuss our corrective action, JCP&L will make the appropriate individuals available for such a meeting. It is our understanding that Region I will notify JCP&L regarding the date and place for the meeting.

best copy available

We look forward to having an opportunity to discuss the steps which have been taken or are planned to improve our program. If there are any questions regarding the enclosed information or additional information is required, please contact me.

Very truly yours,

Ivan R. Finfrock Jr

Ivan R. Finfrock, Jr.
Vice President

la

cc: Boyce H. Grier, Director
U.S. Nuclear Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

ATTACHMENT A

The following is our response to Appendix A, Notice of Violation that was attached to the letter, from Mr. Victor Stello Jr. to Mr. I. Finfrock, dated February 20, 1980. The referenced letter was received in my office on February 26, 1980.

For clarity, each alleged item of non-compliance is repeated in its entirety and followed by our response.

A. Technical Specification 6.8.1 requires that written procedures be established, implemented and maintained that meet or exceed the requirements of Sections 5.1 and 5.3 of American National Standard N18.7-1972. Section 5.1.5 of ANSI N18.7-1972 specifies that procedures provided for control of equipment require independent verification, where appropriate, to insure that necessary measures, such as tagging of equipment, have been taken correctly.

Contrary to the above, Procedure 108, "Control of Tagging, Electrical Jumpers, Lifted Electrical Leads, Keys and Locked Valves," Revision 12, did not provide for independent verification, as appropriate, for the placing/removing of tags, electrical jumpers, and lifting of electrical leads.

This item in an infraction.

RESPONSE:

The item of noncompliance is correct as stated. Procedure 108 did not provide for independent verification for the placing and removing of tags, electrical jumpers and lifting of electrical leads. This omission of the independent verification was due to unintentional oversight in applying the requirement of ANSI N18.7-1972 to Procedure 108.

Corrective Action Taken:

- Procedure 108 was revised on December 6, 1979, to require independent verification of tags on electrical jumpers and lifted leads.

Corrective Action to be Taken:

- The procedure will be revised prior to May 1, 1980, to specify, as appropriate, verification of tags placed on or removed from valves, switches, and breakers.

- Applicable procedures will be audited to assure compliance with this section using checklists. This will be completed by January 1, 1981.

- Future procedure development and revision will be accomplished by using checklists to assure compliance with Technical Specification 6.8.1.

B. 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Operational Quality Assurance Plan, Section X, "Management and

Use of Documents ," Revision 2, require that activities affecting quality be prescribed by documented instructions, procedures or drawings, and be accomplished in accordance with those instructions, procedures or drawings.

B.1 Procedure 120, "Fire Hazards," Revision 5, October 12, 1979, paragraph 5.1.4, requires that stairway and fire doors be kept closed at all times when not being used for passage. Paragraph 5.1.12 requires that all wood used in safety related areas be fire retardant.

Contrary to the above, on October 24, 1979, the inspector found that three fire/hall doors were blocked open. The doors included the 480V hall door, the cable spreading room door, and the 119 foot elevation fuel storage area door. Additionally, the fuel storage area contained wooden crates and boxes which were not fire retardant.

This item is an infraction.

RESPONSE:

1. Fire Doors

The item of noncompliance is correct as stated. With regard to the blocked open doors, at the time of the infraction a site protection officer was present in the immediate area of each door, as required by security procedures, and was instructed to close the door in a fire emergency. Procedure 120, "Fire Hazards" did not, however, recognize this acceptable alternative. The immediate corrective action was to close the doors in question and comply with Procedure 120.

Corrective Action Taken:

- Procedure 120, "Fire Hazards", section 5.1.4 has been revised to state, "Stairway and fire doors should be kept closed at all times except when being used for passage or when an individual is stationed at the door."

Corrective Action to be Taken:

- Applicable procedures will be reviewed to insure that the individual will be instructed to close the door in a fire emergency and upon leaving the area. This will be completed by May 1, 1980.

2. Fuel Assembly Shipping Container:

The item of noncompliance is correct as stated. The wooden crates and boxes, which were not fire retardant, resulted from the uncrating of new fuel assemblies in the fuel storage area. The situation had been identified by station personnel prior to the inspection, however, the necessary work to correct the situation had not yet been completed.

Corrective Action Taken:

- The fuel suppliers have been requested to ensure that future crating and packing materials are fire retardant.

- A memorandum has been written to all plant personnel outlining the fire retardant requirements of wood used in safety related areas and directing efforts be taken to preclude a recurrence of this situation.

Corrective Action to be Taken:

- Letters of Agreement to comply with the corrective action taken will be requested of the fuel suppliers.

- The appropriate receipt and inspection procedures will be reviewed and revised, if necessary, to include the requirement of fire retardant fuel crating and packing materials. This will be completed by June 1, 1980.

B.2 Drawing A-800-204-002, "Type 2 Support", requires the use of two nuts for the installation of the "U" clamps for the described pipe support.

Contrary to the above, on October 24, 1979, "U" clamps were found installed with one nut. The installation was at the 51 foot elevation of the Reactor Building. The pipe supports were attached to the new fire protection water system piping.

This item is an infraction.

RESPONSE:

The facts are correct as stated. However, at the time the inspection took place, the system in question was under construction. The system had not yet received final inspection by the installer or received quality assurance approval as conforming to installation specifications. We are confident that our inspection of the system prior to declaring it operational would have been found and corrected.

Corrective Action to be Taken:

- None required

B.3 Procedure 700.1.009, "General Concrete Core Drilling Procedure", Revision 2, Document Serial No. 217, paragraph 3.1, requires that a job supervisor sign the data sheet and attach it to the Job Order form. Paragraph 5.1.4 requires the completion of the requirements of the Job Order.

Procedure 6009, "Installation, Fabrication, Engineering, Test and Inspection Specifications," Revision 0, paragraph 5.7.2, addresses installation, fabrication, engineering, test or inspection requirements with respect to ANSI Standards. Paragraph 5.7.2 of Procedure 6009 specifies some examples of the types of requirements to be considered for inclusion, including: "grouting requirements for equipment foundations and for penetrations; bolt torquing and locking requirements". The Operational Quality Assurance (OQA) Plan, Revision 2, Page 59, prescribes the use of ANSI N45.2.8 guidance in conjunction with the OQA plan. Part I of Appendix A of the OQA plan lists the fire protection system as one of the systems covered by the Quality Assurance Program.

a. Contrary to the above, on October 30, 1979, the inspector, on reviewing field records for concrete core drilling, determined that a Job Order had not been completed.

b. Contrary to the above, on October 24, 1979, an abandoned anchor boring was identified in the Reactor Building at the southeast corner of the 51 foot elevation. The hole had been drilled in connection with installation of a fire protection pipe support but had not been properly grouted. In addition, there were no written instructions available to address action when rebar was contacted, the relocation distance allowed for the placement of a new anchor bolt or for grouting abandoned holes.

This item is an infraction.

RESPONSE:

B.3.a. The item of noncompliance is correct as stated. The noncompliance was an oversight on the part of the contractor performing the work, resulting from a lack of understanding of procedural requirements.

Corrective Action Taken:

- Discussions have been held with the contractor to assure that he is aware of the requirements for any future work he may do at the plant to complete the file on the job. The file for this job was completed on January 13, 1980.

Corrective Actions to be Taken:

- The subcontractor requirements will be reviewed to assure that each contractor is explicitly required to instruct his employees to follow applicable plant procedures. This will be completed by May 1, 1980.

- The mechanism for auditing this will be reviewed and strengthened, if required. This will be completed by May 1, 1980.

B.3 b. The facts are correct as stated. However, the abandoned anchor boring, identified by the inspector, had been abandoned because of interference with rebar and was identified on a Jersey Central Inspection Report dated July 31, 1979. It was on a list of deviations requiring resolution prior to completion of the fire protection system. Instructions for the installation of anchor bolts did not include corrective action for abandoned anchor bolt holes since this was not expected to be a frequent event and it was adequate to resolve them as deviations.

Corrective Action Taken:

- The procedure has been revised to include corrective action for abandoned bolt holes including specification of minimum distances for additional drilling in cases where the bolt hole is not filled, or in cases where it is regrouted.

- No instances of inadequate installation relating to nearby abandoned anchor bolt holes have been identified.

Corrective Action to be Taken:

- Corrective action on any abandoned anchor bolt holes due to the fire protection project will be completed by May 1, 1980.

B. 4. Administrative Procedure 105, "Maintenance, Repair, and Modification Control," Revision 5, requires that the following steps be accomplished.

Step 5.2.7 requires that the Plant Operations Review Committee (PORC) ensure that plant operating procedures are updated to include changes required as a result of modifications.

Step 5.2.8 requires that, following the implementation of a modification, the Manager, Generation Engineering, assure that "as built" drawings have been revised.

Step 5.1.3 requires that maintenance which could affect the performance of safety related equipment be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings.

Contrary to the above, Operating Procedures 316, "Main Condensate System", and 316.1, "Condensate Transfer System", and Burns and Roe drawings 2003 and 2004 were not revised after completion of modification 213, CRD Water Quality, in November 1978. Also, during this modification, additional work, consisting of weld removal and replacement, was performed on a Q-list valve (an item of safety related equipment) without using writting procedures, documented instructions or drawings.

This item is an infraction.

RESPONSE:

1. Drawing/Procedure Revision

The item of noncompliance is correct as stated. Burns & Roe (B&R) Drawings 2003 and 2004 were affected by the CRD water quality modification #213 and the master drawings were not corrected immediately after the modification because a flow meter, which was to be installed as a major part of the modification, could not be made available until after the 1978 outage. The project engineer decided to wait to revise the drawings until after the flow meter was delivered and installed so that the revised drawings would accurately reflect the modification. After the flow meter was delivered it was decided that it would not be installed during operation and the drawing revisions were again delayed.

Corrective Actions Taken:

- The B & R drawings 2003 and 2004 were revised immediately after identification of the problem on November 12, 1979.

- Procedures 316 and 316.1 have been revised to reflect the modification.

-All project engineers have been instructed that the drawings and procedures are to be promptly revised to reflect the portion of the modification that has been completed.

Corrective Actions to be Taken:

- Procedure 2006 addressing the control of modifications will be revised to require the drawings and procedures be updated in a timely manner. This will be completed by September 1, 1980.

2. Weld Repair

The item of noncompliance is correct as stated. As part of modification #213, CRD Water Quality, a weld repair was made to a valve body. This welding was done by a qualified welder in accordance with the technical requirements of the code for such a weld. The installation specification, as written, did not allow for such a weld repair since the modification only included pipe welding and did not anticipate weld repair of a procured component. A change to the installation specification to broaden the welding requirements was not requested prior to the valve repair. Furthermore the welding procedure specification was not signed off until after the work had been accomplished.

Corrective Action Taken:

- The specifics of this event have been discussed with all parties involved.

Corrective Action to be Taken:

- The same actions described in the response to B.3.a will be taken in addressing this item of noncompliance.

B. 5 QA Procedures 5002, "Training of Nuclear Generating Department Staff Personnel," Revision 0; 6002, "Training of Generation Engineering Personnel," Revision 0; and 9002, "Training of Generation Maintenance Personnel," Revision 0, describe the training requirements for corporate staff personnel and include requirements for formal schools of training programs, procedure training and QA familiarization training.

Administrative Training Manual, Section IV, describes specialized employee training, including lectures and on-the-job training (OJT) which cover maintenance performance, procedure review and change review.

10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program", and OQA Plan, Section III, "Operational Quality Assurance Program," Revision 2, require the licensee to develop a training program for employees as described in ANSI N18.1-1971. ANSI N18.1-1971 requires that a training program be established for the "operating organization". The "operating organization" includes those personnel concerned with the day-to-day operation, maintenance, and certain technical services.

a. Contrary to the above, as of November 2, 1979, formal training had not been conducted for Nuclear Generating Station, Generation Engineering or Generation Construction Maintenance Department personnel nor had hourly personnel in the Mechanical Maintenance Department participated in formal lectures or OJT relating to procedure review and change review.

b. Contrary to the above, as of November 2, 1979, a formally prescribed and documented training program for the Health Physics Department had not been established.

This item is an infraction.

RESPONSE:

B.5 a. The item of noncompliance is correct as stated. Although training has been conducted for both licensed and non-licensed individuals, it is recognized that the present training program is not adequate in many areas. This is especially true in recognition of the more recent events in our industry which further support the need for a more extensive and formal program.

Corrective Action to be Taken:

- Improvements in the training program as described in Attachment B are to be implemented. The schedule is as described in Attachment B.

B.5.b The item of noncompliance is correct as stated. In 1979 two courses were given by outside vendors to Radiation Protection personnel. Approximately 140 hours of additional individual instruction and required reading was presented to Radiation Protection personnel.

Corrective Action Taken:

- A written commitment to establish a Health Physics training program within one month of the end of the present refueling outage was sent to Mr. Boyce Grier, Director USNRC Region I, in December 1979.

Corrective Action to be Taken:

- The Health Physics training program is being prepared and will be completed on schedule.

- A continuing training and requalification program including written and oral exams plus periodic drills will minimize future noncompliance.

- The training program described in Attachment B, Health Physics, Section III will be implemented. The implementation schedule is as described in this section.

B.6 Generation Department Procedure 2002, "Nonconformance and Corrective Action", Revision 2, establishes a system for the control and implementation of nonconformance and corrective action. This procedure requires, in part, the establishment of a corrective action target completion date within a ten working day period following notification of the nonconformance, and the resolution of the nonconformance in a timely and complete manner.

Contrary to the above, the September 1, 1979, Open Nonconformance/Corrective Action Report identified 143 outstanding items. Of these, 71 were overdue for establishing a target completion date, and 29 target dates were past due in that the nonconformances had either not been resolved or the target dates changed as required. This item is an infraction.

RESPONSE:

The item of noncompliance is correct as stated. The nonconformance program has been utilized as an all inclusive tracking system to follow those items which require attention; without regard to the significance of the item.

The primary issue in the control of nonconformance is the impact of the nonconformance on nuclear safety. This is clearly recognized by JCP&L and addressed in our procedures. All nonconformances must be dispositioned, immediate action taken (including work stoppage if appropriate), and limits established on further work on or use of an item.

Corrective Action to be Taken:

- JCP&L is re-evaluating the system and will upgrade the procedure as necessary to address the recognized concerns. This action will include modifying the procedure to separate nuclear safety related nonconformances from all the others so that it is clear that the nuclear safety related nonconformances receive prompt attention. Action will be completed by September 1, 1981.

- Additional corrective action is provided in our response to the management control question on QA Audits.

B.7 Procedure 3005, "Site Material Conformance Identification", Revision 3, December 7, 1977, paragraph 5.3.1, requires that Quality Assurance identify the conformance status of the item being returned to storage and that the item be retagged or restickered, if required. Paragraph 5.1.8 specifies that, prior to removal from storage, re-inspection is required for items (such as weld rod) used in various systems that are subject to obsolescence due to code changes.

Contrary to the above, on October 20, 1979, returned weld rod was observed to be in storage with tags identifying the item as released for use, without having been designated for re-inspection before reuse.

This item is a deficiency.

RESPONSE:

The item of noncompliance is correct as stated. Procedure 3005, Site Material Conformance Identification, Revision 3, requires items which conform to specified requirements be placed in storage and require inspection prior to removal from storage. Reinspection would be required for items used in various systems that were subject to obsolescence due to code changes. During the period of this inspection, the storeroom was relocating materials from other areas of the plant to the new warehouse facility. Retagging of material was and is being done for all material brought into stock. Due to the large volume of material coming to the new warehouse, the retagging of the weld rod noted above had not yet taken place.

Corrective Action Taken:

-An operating instruction has been established that requires reinspection of all QA specified material prior to issue.

- All weld rod in stock has been inspected by the Quality Assurance Department and the appropriate identification tags applied.

- A newly issued set of procedures for operation of the warehouse which address this issue have been implemented as of January 25, 1980.

Corrective Actions to be Taken:

- Instructions given to the appropriate personnel will be reviewed to assure a clear delineation of weld rod control. This will be completed by May 1, 1980.

- The audit procedures will be reviewed and modified, if needed, to assure that weld rod control is a topic audited. This will be completed by May 1, 1980.

C. Technical Specification 6.10.3 requires that Quality Assurance Records be retained as specified by the Operational Quality Assurance Plan.

Operational Quality Assurance Plan, Section III, "Operational Quality Assurance

Program," Revision 2, requires that the licensee maintain a duplicate file system, consisting of a corporate document center and a duplicate document center at the Oyster Creek site.

Contrary to the above, modification packages 211, 297 and 313 were not filed at the Oyster Creek site document center as required. The modification packages were filed at the corporate office except for modification package 297, which the licensee could not find.

This item is an infraction.

RESPONSE:

- The item of noncompliance is correct as stated. Document Control Center procedures require that a duplicate copy of all documents filed in a Document Control Center be made and sent to the other Document Control Center. It is apparent that in some cases this procedure is not carried out. Modification package 297 cannot be located.

Corrective Action Taken:

- Document Control Center personnel have been instructed to completely follow the procedures in order to insure that duplicate files are maintained.

- All project engineers have been reinstructed to promptly file all completed engineering modification packages in the Document Control Center.

Corrective Action to be Taken:

- Attempts are being made to reconstruct as much as possible of this modification package. A notification will be placed in the file indicating the extent of the modification and the fact that the package is incomplete.

- A complete audit of all engineering modification packages will be performed and any necessary corrective actions completed by January 1, 1981.

D. Technical Specification 6.5.3.3.b requires that the training and qualificatons of the entire facility staff be audited at least once per year.

Contrary to the above, for the three year period of 1977 through 1979, one audit in this area was started in 1977 and completed on January 1, 1978, and another audit was scheduled for completion in 1979. Therefore, only two audits have been performed in a three year period.

This item is an infraction.

RESPONSE:

The item of noncompliance is correct as stated. The 1977 audit was credited for both a 1977 and 1978 audit, because it was conducted during December 1977 and January 1978. The audit scheduling procedure, that permitted this error, was revised in 1978. This revision will avoid recurrence of this item of noncompliance.

Corrective Action Taken:

-The audit scheduling procedure, that permitted this error, was revised in 1978.

Corrective Action to be Taken:

-None required.

E. Technical Specification 6.8.1 requires, in part, that written procedures be established, implemented, and maintained that meet or exceed the requirements of Appendix A of the NRC's Regulatory Guide 1.33.

Contrary to the above, calibration procedures had not been written and implemented as of November 2, 1979 for the following equipment:

- New Radioactive Waste Facility Effluent Monitors
- New Radioactive Waste Facility Area Radiation Monitors
- Model RO-2A Portable Survey Meters
- Portal Monitors
- Constant Air Monitors
- Whole Body Counter
- Hand and Foot Monitors
- Environmental Air Samplers
- Multiple Source Gamma Calibrator

This item is an infraction.

RESPONSE:

Our response for each item of equipment is provided below.

New Radioactive Waste Facility Effluent and Area Monitors

The item of noncompliance is correct as stated. The requirement for the monitor calibration was not recognized when the new radwaste facility was placed into service.

Corrective Action Taken:

- The vent monitor gaseous, iodine, and particulate monitors have been calibrated.

- Routine iodine and particulate filter removal and analysis has been performed since November 1979.

- By use of analysis data and a thorough review of recorder charts, effluent releases for 1979 have been calculated and are reported in the Oyster Creek Semi Annual Report #79-2 of Radioactive Effluent Releases.

- Procedure #621.3.010 was written and approved on January 9, 1980 for the new radwaste area radiation monitoring and calibration test.

Corrective Action Taken:

- Permanent calibration procedures have been written and are being reviewed. This should be completed by March 31, 1980.

- The liquid effluent monitor will be calibrated after modifications are made to the system.

- An engineering request has been issued to evaluate and implement the necessary changes. This activity will be completed by December 31, 1980. During the interim period, the old radwaste liquid monitor is operational and will be used.

- A more formal turnover procedure for placing a new system into operation, which will address items such as instrument calibration, will be developed and implemented by September 1, 1980.

Model R02A Portable Survey Meters

The facts are correct as stated. However, the instruments in use had been borrowed from General Electric and had been calibrated at General Electric and were within the prescribed calibration period. Calibration Procedure 795.3.004 was written and approved on November 22, 1979. The borrowed instruments were returned and the new instruments were calibrated and then issued for use on December 12, 1979.

Corrective Action To Be Taken:

- None required.

Portal Monitors

The item of noncompliance is correct as stated. There was a calibration procedure 908.3 approved January 11, 1979 for the calibration of portal monitors. The procedure was determined to be inadequate, as documented by field tests, and was deleted.

Corrective Action Taken:

- Calibration Procedure 795.3.008 was written and approved November 23, 1979.
- Explicit instructions have been issued to the health physics personnel that all health physics instruments for which an approved calibration procedure does not exist shall be removed from or not placed in service.

Constant Air Monitors

The item of noncompliance is correct as stated. The Constant Air Monitors were only used as an indicator of increases or decreases in air concentrations in the past.

Corrective Action Taken:

- Portable grab samples were obtained for purposes of determining compliance with regulations.

- Constant Air Monitor calibration procedure 795.3.009 was approved November 28, 1979.

- All functioning CAM's have been calibrated. All nonfunctioning CAM's have been tagged out of service until repaired and calibrated. Full compliance was achieved November 28, 1979.

Whole Body Counter

The item of noncompliance is corrected as stated. However, this equipment was only on site for JCP&L evaluation at the time of the audit. In December, 1979, JCP&L entered into a contract with the vendor to lease the Whole Body Counter, perform repairs, and analyze data.

Corrective Actions Taken:

- In February 1980 a masonite phantom and NBS traceable point sources of the isotopes Cobalt-60 and Cesium-137 were purchased.

- The vendors' QA program has been reviewed, and we have established our own QA-QC program for the Whole Body Counter.

- A Whole Body Counter calibration procedure (915.11) was written on March 11, 1980 and approved on March 14, 1980.

Hand and Foot Monitors

The item of noncompliance is correct as stated. The Hand and Foot Monitors were being used while being evaluated for use at the Oyster Creek Nuclear Generating Station and have subsequently been determined unsuitable for our intended use.

Corrective Action Taken:

- The equipment has been returned to the manufacturer.

- RM-14 count rate meters and thin window GM pancake type detectors are being used as a final personnel survey for greater sensitivity. An approved procedure for these count rate meters was available at the time of audit.

Multiple Gamma Source Calibration

The item of noncompliance is correct as stated. The source values were decayed quarterly and partial calibration utilizing a Condenser R meter traceable to NBS had been started when a mechanical reproducibility problem was discovered. The old multiple Gamma source calibrator was tagged out of service October 30, 1979.

Corrective Action Taken:

- A new Multiple Gamma Source calibrator was purchased in December 1979. A calibration procedure was written and approved on November 23, 1979.

- Source values will be corrected quarterly by decay calculations and recalibration will be performed annually, utilizing an NBS traceable Condenser R meter.

- Full procedural compliance was achieved November 23, 1979. The new Multiple Gamma Source Calibrator was received and calibrated in December, 1979.

Corrective Actions To Be Taken:

The following corrective actions to be taken address the areas discussed.

- The appropriate procedures and instructions will be reviewed to assure that no radiation protection instruments are used unless calibration procedures are approved and calibration is performed prior to use. This will be completed by May 1, 1980.

- Explicit instructions will be sent to each of the appropriate department heads reemphasizing their responsibility to assure that the instruments being used have been calibrated with approved calibration procedures; any instruments found in violation of this directive shall be removed from service immediately until they are in full compliance. This will be completed by April 15, 1980.

- A review of the QA audit program will be performed and modified if necessary to assure that the calibration of instruments is being performed as required by procedure. This will be completed by May 1, 1980.

F. 10 CFR 20.201(b) requires that each licensee make or cause to be made such surveys as may be necessary to comply with the regulations in this part. As defined in 10 CFR 20.201(a), "survey" means an evaluation of the radiation hazards incident to the production, use, release, disposal or presence of radioactive material or other sources of radiation under a specific set of conditions.

10 CFR 20.106 limits the amount of radioactive material that a licensee may release to an unrestricted area during possession, use or transfer of radioactive material.

Contrary to the above, as of November 2, 1979, surveys of effluents released from the New Radioactive Waste Facility had not been performed in that the continuous gas and liquid effluent monitors had not been calibrated nor had samples been collected and analyzed in the laboratory since initial introduction of radioactive materials into this facility in October 1978.

This item is an infraction.

RESPONSE:

The item of noncompliance is correct as stated. The requirement for monitor calibration was not recognized when the new radwaste facility was placed into service.

Corrective Action Taken:

- The ventilation duct monitor system has been calibrated and alarm set points established for the gaseous, iodine and particulate detectors.

- Routine iodine and particulate filter removal and analysis has been performed since November 1979.

- By use of analysis data and a thorough review of recorder charts, effluent releases for 1979 have been calculated and are reported in the Oyster Creek Semi Annual Report No. 79-2 of Radioactive Effluent Releases.

Corrective Actions To Be Taken:

- The liquid effluent monitor will be calibrated after system engineering review and modifications are completed. Until this is completed, liquid effluents are monitored using the old radwaste monitor which is operational. Completion date is December 31, 1980.

- A formal turnover procedure for placing a new system into operation, which will address items such as instrument calibration, will be developed and implemented by September 1, 1980.

G. Technical Specification 4.5.K.1.a. (2) requires that at least once per 18 months a sample from the Standby Gas Treatment System charcoal absorbers be analyzed to demonstrate 90 percent radioactive methyl iodide removal efficiency.

Contrary to the above, as of November 2, 1979, no analysis of charcoal absorber efficiency has been performed to indicate compliance with the above specification since initial operation of the Standby Gas Treatment System in 1969.

This item is an infraction.

RESPONSE:

The item of noncompliance is correct as stated. This was an oversight in that the sampling and analyzing of the charcoal absorbers in the Standby Gas Treatment System (SGTS) was not included on the master surveillance schedule.

Corrective Action Taken:

- The SGTS charcoal absorber removal efficiency was determined by our vendor during the period November 26-28, 1979. Both systems met the Technical Specification requirements. This analysis was reviewed and concurred with by a regional inspector on Janury 4, 1980, pending documentation of the test report. The test report was documented on January 14, 1980.

Corrective Action To Be Taken:

- This surveillance item will be added to the master surveillance schedule by April 1, 1980.
- Technical Specification changes will be reviewed to insure that all other surveillance requirements have been added to the master surveillance schedule. This will be completed by the end of the 1980 outage.
- The procedures will be reviewed and modified, if required, to assure that any future surveillance requirements incorporated in the Technical Specifications is included on the master surveillance schedule. This will be completed by the end of the 1980 outage.

H. 10 CFR 50.54 (p) requires that changes made to the Security Plan which do not decrease the safeguards effectiveness of the Plan are to be reported to the Director of Nuclear Reactor Regulation, with a copy to the appropriate NRC Regional Office, within two months after the change is made.

Contrary to the above, on April 1, 1979, a new position, Assistant Site Protection Supervisor/Training, was added to the Security Organization. As of October 19, 1979, a description of the change had not been furnished to the Director of Nuclear Reactor Regulation to the appropriate Regional Office.

This item is a deficiency.

RESPONSE:

The item of noncompliance is correct as stated. The failure to report the "Assistant Site Protection Supervisor/Training" position to the Director of Nuclear Reactor Regulation or to the appropriate Regional Office is attributed to the following: The amendment incorporating the "Oyster Creek Physical Security Plan" into the operating license was received on September 14, 1979. It was not recognized that changes to the Plan that did not decrease the effectiveness of the Security Plan had to be reported until after formal approval of the Plan by the NRC. The addition of the

"Assistant Site Protection Supervisor/Training" was conceived at the time of appointment to be a temporary position until the training department could obtain the necessary approvals for addition of a security training position. Because the position was temporary and the belief that reporting of changes was not necessary until after formal approval of the Plan, the addition of the position to the security organization was not reported.

Corrective Action Taken:

- Compliance was achieved on this item by informing NRC, by letter dated October 31, 1979, that the position of "Assistant Site Protection Supervisor/Training" had been incorporated into the security organization on April 1, 1979 and subsequently deleted on October 1, 1979, at which time it was incorporated into the training department.

Corrective Action to be Taken:

- The appropriate security procedures addressing this issue will be reviewed and modified, if required. This will be completed by June 1, 1980.

FIRE PROTECTION

Jersey Central management recognizes the importance of fire protection and prevention at Oyster Creek. In order to more effectively control the direction of the fire protection/prevention program, and in an effort to convey management's attitude to all staff personnel, a more active role will be taken by upper management in the field of fire protection. The following actions are viewed as necessary steps to obtain these goals, and are viewed as improvements to the management control of the fire protection/prevention program.

As committed in the Oyster Creek fire protection plan and recognized by JCP&L management, the Fire Protection Specialist is responsible for the detailed implementation and assessment of the program. Following the 1980 outage, the individual in this position will report to the Plant Support Superintendent for matters pertaining to the program. The individual filling this position will be formally trained in fire protection and have a thorough knowledge of the fire protection equipment at the plant, nuclear safety and the systems at the plant including their location in the facility and function in mitigating an accident or precluding uncontrolled release of radiation within and outside the facility.

Recognizing the complexity of the systems which have been installed and the need to assure their operability when called upon to perform, as well as the training, drills, interface with outside fire companies, etc, five new positions will be created to assure that this important area receives the necessary technical support and priority it deserves.

The Station Manager has directed the Fire Protection Specialist to provide him a periodic status of the fire protection program. The status will be in the form of a meeting or a written report which will delineate progress, accomplishments or problems in the program. The update will be provided on a quarterly basis with the first being scheduled for September 1980. In addition to the quarterly update, all fire drill reports will be reviewed by the Manager-Nuclear Generating Stations. The fire drill report will delineate the drill scenario, the post drill critique, and any recommended corrective actions. The quarterly updates and fire drill reports will provide the Manager-Nuclear Generating Stations with the necessary information to evaluate the effectiveness of the Fire Protection program.

The Fire Protection Specialist has been directed to notify, directly, the Station Manager of fire hazards which could compromise the safety of the plant. This will insure prompt action will be taken to correct the situation.

The Plant Manager confirmed by memo to the PORC Chairman his instructions that the PORC utilize the expertise of the Fire Protection Specialist is available to assist in the evaluation of potential fire hazards in plant safety related activities.

A job description for the Fire Protection Specialist position will be written to incorporate the responsibilities, functions, authority and qualifications presently described in Procedure 101.2. Alternates to this position will receive training and will be available to assume the duties of the Fire Protection Specialist in his absence. These activities will be completed by December 1, 1980. The administrative control procedures for fire protection are being reviewed and, if necessary, revised to assure that the necessary controls are in place which address, for example, controlling the storage of combustibles in safety related areas of the plant, assuring the valving out or otherwise disabling of automatic fire protection systems is properly controlled, the use of ignition sources is controlled through a permit system and periodic housekeeping inspections are scheduled and performed. The review will assure that the responsibilities are explicitly defined where possible. This review will be completed by the end of the 1980 outage.

The required fire protection modifications and associated procedures will also be completed by the end of the 1980 outage.

TRAINING

JCP&L Company recognizes the importance of training throughout the Generation Division to ensure overall sound operation of the Oyster Creek Nuclear Generating Station. In recognition of this a Manager of Training who will report to the Vice President of Generation will be appointed by May 1, 1980. Establishing the training function at a manager level will result in the desired improvements in management's awareness and control over all generation division training.

The Manager of Training will be responsible for:

-Developing and administering an overall training program plan

-Providing resources and support to the station training department

- Assure the content of training programs is adequate and meets all regulatory requirements.

The Manager of Training will be responsible for developing the lesson plans and conducting the training to meet the course objectives. He will develop course objectives through interaction with the other functional managers who will establish the performance requirements. He will assign individuals not responsible for training to review the conduct of training at the plant and home office areas. This will include monitoring instructor performance, evaluation of on the job training and student performance reviews to ensure the adequacy of his training organization.

The company is currently developing a long term sustained program to ensure qualified hourly employees are continually available to operate the Oyster Creek Nuclear Generating Station. The program is referred to as Time Oriented Proficiency Progression System (TOPPS). Employees can advance in this program through established grades for their line of work on a prescribed time schedule with successful completion of classroom work, on-the-job training, capability demonstrations and work experience in each grade, they can reach the top skill level for their classification. Those not capable of achieving the required levels of proficiency will be removed from the program.

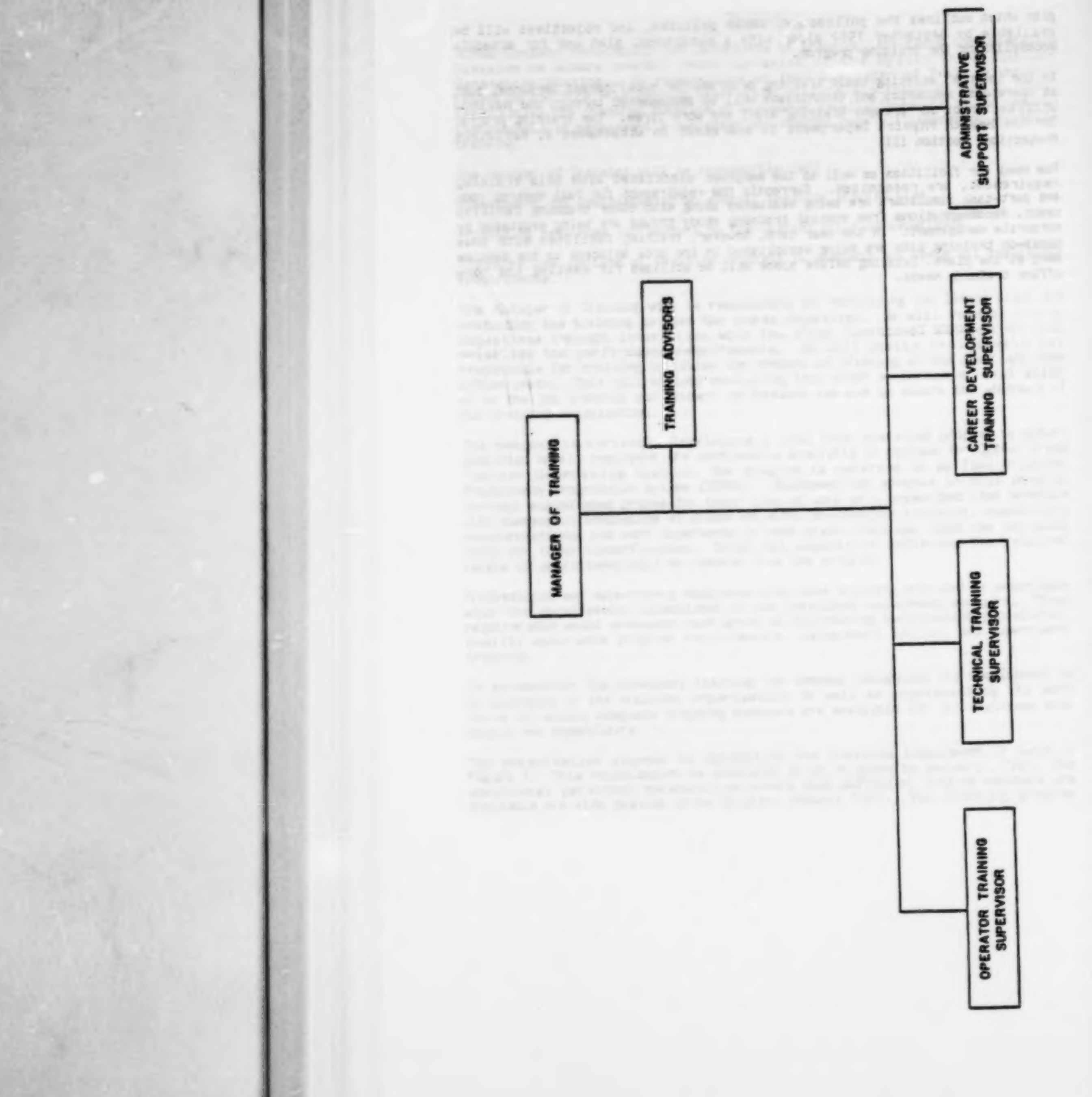
Professional and supervisory employees will have training provided in accordance with the requirements established by the individual department managers. These requirements would encompass such areas as engineering modification procedures, quality assurance program requirements, management skills, and supervisory training.

To accomplish the necessary training the company recognizes its committment to an expansion of its training organization as well as supplementing the work force to ensure adequate training manhours are available for all employees both hourly and supervisory.

The organization planned to accomplish the training commitment is shown in Figure 1. This organization is scheduled to be in place by January, 1981. The additional personnel necessary to ensure that sufficient trainee manhours are available are also planned to be in place January 1981. The training program plan which outlines the philosophy, basic policies, and objectives will be available by September 1980 along with a management plan and for schedule accomplishing the training program.

In the interim, existing basic training programs for non-licensed personnel such as operators, mechanics and technicians will be implemented through the maximum utilization of our present training staff and work force. The training program for the Health Physics Department is addressed in Attachment B, Radiation Protection, Section III.

The need for facilities as well as the manpower associated with this training requirement, are recognized. Currently the requirement for full control room and part-task simulators are being evaluated along with other training facility needs. Recommendations from special training study groups are being evaluated by corporate management. In the near term, however, training facilites with some hands-on training aids are being established in the area adjacent to the machine shop at the plant. Existing office space will be utilized for meeting the home office training needs.


MANAGER OF TRAINING
TRAINING ADVISORS
OPERATOR TRAINING SUPERVISOR
TECHNICAL TRAINING SUPERVISOR
CAREER DEVELOPMENT TRAINING SUPERVISOR
ADMINISTRATIVE SUPPORT SUPERVISOR

MAINTENANCE

IE Inspection Report No. 50-219/79-18 forwarded by NRC Region I letter of January 4, 1980, listed several findings and observations related to maintenance and concluded that "the licensee appeared to have a well-defined written program to assure that maintenance work would be performed and tracked in an acceptable manner". However, the NRC also concluded that the written program had not been adequately implemented, resulting in questionable quality of some maintenance work. The NRC also noted that there were morale problems in the Maintenance Department. These conclusions then alluded to the positive steps taken by Oyster Creek to correct problems in the Maintenance Department but noted that Oyster Creek had made no official commitment regarding when the planned program changes would be fully implemented. Neither had Oyster Creek identified all goals and objectives necessary to pursue an effective maintenance program nor had interim measures which will assure a minimum impact on safety been clearly identified. Finally, the NRC concluded that Oyster Creek's maintenance management controls were poor.

It is the purpose of this section to identify Oyster Creek's actions, some of which are in response to conclusions of the NRC, and to commit officially to a schedule for fully implementing all planned maintenance program changes.

Although the NRC concluded that Oyster Creek's written maintenance program appeared to be well defined and would produce and track acceptable maintenance work, Oyster Creek has undertaken the following changes to the written program to increase the scope and to provide greater definition of previously issued procedures:

a) To provide for improved control of maintenance work in all areas, Oyster Creek has undertaken to develop and implement a new procedure entitled, "Conduct of Maintenance". Basically, the procedure will provide standard administrative, management, and radiological control practices for advance planning and conduct of maintenance jobs, including staging of material, selection or training of mechanics and technicians, establishing prerequisites, specifying precautions, insuring the required approved procedures are in hand, and conductng pre-shift briefings. All phases of this planning and implementation will take note not only of the craftmanship, manning, sequence, schedule, and plant conditions, but also the radiological work practices that will provide contamination control and reduce exposure associated with doing the work. All Maintenance personnel, Supervisors, Group Supervisors, Mechanics, and Technicians-will be trained in this procedure which will establish the conditions under which maintenance work will be performed. Effective implementation of this procedure will improve management controls for maintenance work at Oyster Creek. The procedure will be issued, training completed, and the prescribed controls implemented by August 1, 1980.

b) The Performance Appraisal Branch observed in their report of the inspection that the Preventive Maintenance Program had not been adequately implemented and referred to a reported lack of manpower as the reason. Since that time, Oyster Creek has hired two preventive maintenance engineers (one mechanical, the other instrumentation and electrical) to administer the program and, as subsequently mentioned in this section, additional supervision and manning have been added to both Maintenance Departments. The existing Preventive

Maintenance Program will be reviewed for compliance with specifications and updated to increase effectiveness. Maintenance crews will be established which will be dedicated to preventive maintenance exclusively.

The revised Preventive Maintenance Program will emphasize updating the equipment history files with preventive maintenance information and will use the equipment history files to detect trends in equipment performance that justify changes in preventive maintenance practices. The planned improvements in the content and performance of the Preventive Maintenance Program will be implemented by September 30, 1980.

When referring to Oyster Creek's failure to implement adequately the written maintenance program, the NRC concluded that this had raised questions relative to the quality of some of the work performed in the maintenance area. Oyster Creek considers that the principal problem here was with the job order system and the failure to comply fully with the requirements of the approved written procedure. To cover this problem, all completed job orders are now reviewed by the appropriate department head for completeness and accuracy. This review includes checking for material traceability, work procedure compliance, post-maintenance testing, and equipment history entries. This has been successful for job orders presently being completed, with the exception of equipment history entries. For the purpose of equipment history entries, additional staffing is required and is planned to be in effect by September 1, 1980 to assure all job orders are being completed in accordance with the requirements of the procedures.

Another facet which raised questions for the NRC relative to the quality of maintenance work is the noncompliance/corrective action required (NC/CAR) system. To ensure that NC/CAR's are properly processed and that indicated actions are taken properly, Oyster Creek is now establishing a procedure whereby all NC/CAR's assigned to the Operations and Maintenance Departments are routed to the Management Control Supervisor. The Management Control Supervisor will assign each NC/CAR to the department head responsible for establishing completion dates, for taking the indicated corrective action, and for returning the dispositioned NC/CAR's to the Quality Assurance Department expeditiously. In performing this function, the Management Control Supervisor will maintain a log of commitment dates, status of action in progress, and NC/CAR's properly completed. This log will be the basis for management action which may be required to maintain the NC/CAR program up to date. This new procedure for controlling and expediting NC/CAR's will be fully implemented by August 1, 1980.

When taking note of morale problems in the Maintenance Department, the NRC referred to poor communications, inadequate corporate management support regarding manpower needs, and inadequate training. In this regard, a number of actions have been taken:

a) A new Supervisor of Station Mechanical Maintenance has been assigned. A new Maintenance Department Engineer has been assigned to him as well as two newly promoted Group Mechanical Maintenance Supervisors. A third Group Mechanical Maintenance Supervisor is approved and will be available for assignment after the current outage is completed. In addition, the Mechanical Maintenance Department has been authorized eight (8) additional personnel to cover the increased effort which will be devoted to maintenance training, preventive maintenance, and radiological waste processing system maintenance.

In the Instrument and Electrical Maintenance Department, two Group Supervisors have been added, one each to the Instrument group and the Electrical group. Similarly, the Instrument and Electrical Maintenance Department has been authorized seven (7) additional personnel to cover the increased effort which will be devoted to maintenance training and preventive maintenance.

This increased supervision, manning, and training is calculated to improve morale in the Maintenance Department. It is apparent to Oyster Creek management that the desired effect is being achieved.

Oyster Creek believes that the plans and commitments outlined above adequately address the concerns expressed in the Performance Appraisal Branch report of 1979 in the Maintenance section of the report. Similarly, the commitments made and the changes described will improve overall management controls of maintenance.

RADIOACTIVE WASTE

Radwaste shipping procedures have undergone extensive changes and are continuing to be reviewed and revised to bring our solid waste shipping program to acceptable standards in all aspects. Since the PAB team inspection, the following procedures have been developed in response to the concerns expressed in the report and as commitments to IE Bulletin 79-19:

1. Administrative Procedure 101.3 - Shipment of Radioactive Materials for Offsite Burial - issued November 14, 1979 - To define areas of responsibility and to address the shipment documentation and reference the documents governing shipment of radioactive wastes.

2. Operating Procedure 351.10 - Packaging Radioactive Wastes for Shipment to Offsite Burial Sites - issued November 14, 1979 and revised December 11, 1979 and January 18, 1980 - To provide detailed instructions for packaging radioactive wastes for shipment to offsite burial sites.

However, in order to assure full procedural coverage, a new set of shipping procedures is presently being prepared. An individual procedure will exist for each type of cask. Upon completion, the procedures will be reviewed and evaluated against the requirements set forth in 10CFR71, 49CFR170-189, and the individual burial site requirements. It is expected that the procedures will be completed by April 30, 1980, and the evaluation to be completed by May 31, 1980. Oyster Creek considers that this procedural effort is responsive to the concerns of the PAB team report in the areas of radioactive waste and shipping.

To improve management control of radioactive waste, the organization for operation and support of the Radwaste facilities will be revised by creating and filling the position of Supervisor of Radwaste Operations. He will have the overall responsibility for processing and shipping of radioactive waste, as well as overall planning and license compliance of all aspects of radwaste. Until the proper person has been assigned to this new position, the function will be fulfilled by the Operations Supervisor. Each shift will have its own Radwaste Shift Supervisor and dedicated Radwaste Operators to assure the effect and efficient operation of the facility. The Radwaste Shift Supervisor and Operators will have the responsibility for both the Radwaste and Augmented Off Gas (AOG) building operations.

Also in the Radwaste organization will be the position of Radwaste Shipping Supervisor for all radwaste shipping. This position will be responsible for monitoring compliance with all applicable shipping requirements and procedural controls in this area.

Plans are to fill the Radwaste Shift Supervisor and radwate operators as soon as possible but no later than September 30, 1980. The Radwaste Shipping Supervisor will be filled by May 1, 1980.

Other areas being actively pursued to upgrade our Radwaste Operations include:

- Engineering support to correct identified design deficiencies and upgrade the capability of the processing systems.

- Complete review and revision of all Radwaste operating procedures to assure current system status is reflected - complete by June 30, 1980.

The above organization changes, which result in responsible supervisory coverage of the Radwaste facility activities, along with the planned revision of our procedural controls and the dedicated engineering support to upgrade the processing systems, demonstrate our commitment to upgrade management control of the radioactive waste program.

QUALITY ASSURANCE

Starting in early 1979, JCP&L QA identified the need to evaluate the QA program effectiveness and undertook an extensive effort to evaluate the effectiveness of basic programs. The initial effort was that of analyzing NRC inspection items, Reportable Occurrences, Audit Notices, and Nonconformances for the purpose of establishing any unsatisfactory trends in specific areas. The areas which have been evaluated include: maintenance, Health Physics, surveillance testing, fire protection, warehousing, and security. In addition to this effort, I & E inspection reports, Audit Notices, and Nonconformances have been evaluated on an individual basis to establish broad programmatic trends. (Reference Item 6.c.9 of your PAB report, Page 40). This effort has been quite effective in identifying areas requiring further attention (reference Unresolved Item 219/79-16-22, the last paragraph on Page 65 which continues on to Page 66 of the PAB report). The maintenance survey discussed on Page 65 and 66 of the PAB report was the result of compiling identified concerns in the "Findings Analysis-Maintenance Report", dated March 27, 1979, and a recommendation to perform the survey to better understand the maintenace program. Likewise, the JCP&L internal audit program has been focusing on programmatic concerns and documenting shortcomings.

In addition to the efforts mentioned above, JCP&L utilized a highly qualified, independent consultant to perform an extensive review of the effectiveness of the Operational Quality Assurance Program. Progressive review techniques were utilized to evaluate the program effectiveness, JCP&L personnel understanding of the program, attitudes toward the program, and recommendations which personnel at all levels have. Approximately sixteen manweeks of consultant time went into this effort and extensive JCP&L time was expended.

The objective of this extensive evaluation discussed above was to study fundamental issues and assess appropriate changes which would better address the heightened awareness towards Quality Assurance.

On February 20, 1980, the initial evaluation effort was complete and the Quality Assurance Department submitted a report to upper management. This report combines the major concerns identified by all sources, including PAB, and makes recommendations on how to address the concerns. The recommendations fall into three basic categories: QA program scope, QA organization, and program upgrades. Until the organizational upgrading is well underway, the expansion of program scope and the program upgrades cannot be staffed internally. As a result, JCP&L QA has three contractor agreements and a GPUSC agreement in place to help address these areas in the short term. An extensive amount of work is being carried out in accordance with these agreements.

The organizational changes are extensive. The staff supporting the Manager-Operational Quality Assurance at the corporate office will be increased significantly. The objective of this action is to place the bulk of the engineers into the areas of audits, QA trending, and training and qualification. The procurement quality assurance area staff will be increased to bring more of this work in house. The Site QA organization is the area receiving the most attention and the most dramatic change. Changes will be made to greatly strengthen the technical capability on site by establishing a separate QA engineering organization and hiring QA engineers into that group. This group, along with the strengthened staff QA engineering group, will greatly improve the corrective action followup and closeout, and the QA trending capability. It will also permit a greatly improved capability in programmatic planning and development, training and qualification of personnel, QA Department interface with engineering and operating organizations, QA engineering support, and QA review of operations data and Technical Specification compliance. The current Site QA Organization responsibility is primarily one of QA inspection/surveillance. This function will continue under the Site Quality Assurance Inspection Supervisor. The scope of this organization's responsibility will be expanded significantly and include personnel to provide QA coverage of radiation protection, radwaste shipping, and chemistry. In addition, a full time NDE Specialist will be assigned to the site. All of these site functions will be placed under a new, higher level position of Site Quality Assurance Manager to emphasize the increased awareness of the significance of this organization. This commitment is a significant commitment on JCP&L's part and represents a significant step in addressing the new, heightened awareness of the Quality Assurance role in the operating phase of the nuclear industry. The new Quality Assurance organizational structure is shown on the attached organzation chart. The organization is approved and the JCP&L Quality Assurance Organization will be actively recruiting to fill the new positions by June 1, 1980. Our goal is to have all of these positions filled by the end of 1980.

In addition to implementing a new organization, a significant commitment to training is required. In this light, the Quality Assurance Department is developing an extensive training program. It is scheduled to start right after the completion of the present refueling outage at Oyster Creek with a forty-hour course in visual inspection and welding and then a twenty-hour course in nondestructive examination. During 1980, formal courses on the Operational Quality Assurance Plan and Quality Assurance practices will be established, and the initial portions given to Quality Assurance Department personnel. There is a need to broaden the Quality Assurance Department personnel's knowledge of Oyster Creek systems and plant operation. This need is being evaluated and training will begin in this area in 1981. In addition to classical subjects, JCP&L has recognized a need to train its Quality Assurance personnel in the area of communications. Efforts are already underway in this area.

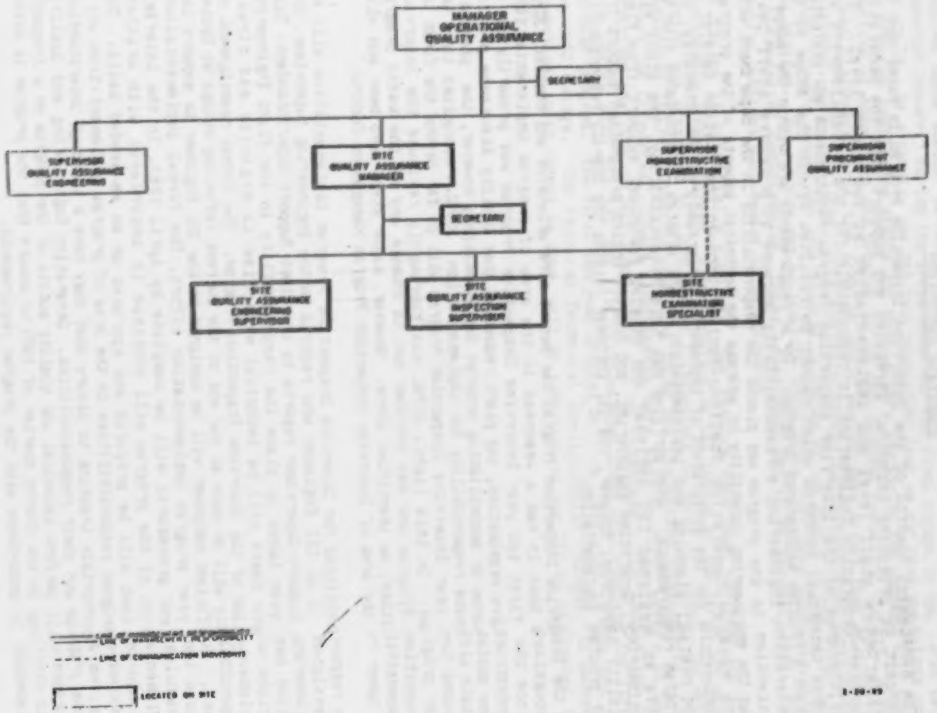
The programmatic upgrading will require a significant effort in defining programmatic specifications and computer program development. This effort will continue on a high priority basis which is consistent with resource availability. It is not possible to determine a schedule for this effort at this time.

The specific NRC concern for the followup and closeout of audits and nonconformances is in part addressed by the extensive efforts described above. Approximately 40% of the open Audit Notices address the need for administrative control procedure revisions and pose no significant nuclear safety concern. Resources are being dedicated by the various departments to fulfill the commitments made relative to revising procedures.

The following action has already been taken, Quality Assurance is utilizing a consultant to help it manage its audit program until the organizational upgrading is complete. Generation Engineering hired a consultant to help draft the administrative control procedures to close out its Audit Notices. Generation Maintenance and Construction is writing and issuing procedures to close out many of its Audit Notices. Within nine months, essentially all of the open Audit Notices pertaining to procedure revisions, will be closed.

In addition to the corrective action described above, the non-Quality Assurance Department portion of this concern will be addressed through an improved management control mechanism which makes management more aware of the status of efforts to close out nonconformances and Audit Notices. This mechanism will focus on overdue items and establish responsibility for resolutions. The Managers of the various departments will continue to be responsible for the corrective action associated with items identified as within their responsibility. The Vice President-Generation will increase his direct involvement in the program by means of reviewing overdue items and taking appropriate corrective action. An initial system of this type will be implemented by August 1980.

With regard to the nuclear safety significance of Audit Notices, the JCP&L Nuclear Safety & Licensing Department looks at Audit Notices when issued for potential safety concerns and takes immediate action if appropriate. This action is independent of Audit Notice closeout. To this end, JCP&L is confident that Audit Notices which identify Nuclear Safety Concerns are identified promptly.


MANAGER
OPERATIONAL
QUALITY ASSURANCE
SECRETARY
SUPERVISOR
QUALITY ASSURANCE
ENGINEERING
SITE
QUALITY ASSURANCE
MANAGER
SUPERVISOR
NONDESTRUCTIVE
EXAMINATION
SUPERVISOR
PROCUREMENT
QUALITY ASSURANCE
SECRETARY
SITE
QUALITY ASSURANCE
ENGINEERING
SUPERVISOR
SITE
QUALITY ASSURANCE
INSPECTION
SUPERVISOR
SITE
NONDESTRUCTIVE
EXAMINATION
SPECIALIST
LINE OF MANAGEMENT RESPONSIBILITY
LINE OF COMMUNICATION (ADVISORY)
LOCATED ON SITE

INSERVICE INSPECTION

The management control of the Inservice Inspection Program is based upon the concept of providing technical direction and support from the Generation Department staff level and implementation at the plant level. The Manager-Generation Engineering is responsible for the establishment and maintenance of the Inservice Inspection Program requirements and evaluating those technical concerns which cannot be resolved within the scope of the plant's routine maintenance program. These requirements are within the scope of Generation Engineering's responsibility because it provides staff level attention to the program and places the responsibility in the department which has the engineering capability to address the technical aspects of the program. The Manager-Generating Stations-Nuclear through the Station Manager is responsible for the development of implementation procedures and schedules, and the overall planning and implementation of the program in accordance with the program requirements. When carrying out this responsibility, the plant will have an assigned ISI engineer who obtains technical support from Plant Engineering, Generation Engineering, and nondestructive examination support from Quality Assurance; however, the ISI Engineer retains the overall responsibility for program implementation.

As the Inservice Inspection Program has become more extensive and complex, JCP&L recognized that it had a weakness in the area of program implementation. Since the first ten year Inservice Inspection Program was primarily one of nondestructive examination, the plant requested that Quality Assurance provide some assistance in accomplishing program implementation; however, the plant did retain ultimate responsibility for implementation. JCP&L recongizes that the second ten year Inservice Inspection Program will go far beyond the first ten year program. In this light, JCP&L has thoroughly reviewed the Inservice Inspection Program and has decided not to change any of the basic program responsibilities, as identified above. However, major steps have been and will be taken in the area of Inservice Inspection Program Management Control.

The responsibilities for Inservice Inspection Program implementation will be reassigned to an ISI Engineer who reports to the Engineering Supervisor. The Engineering Support Supervisor reports to the Plant Support Superintendent. This action has been taken to place the responsibility in the Plant Engineering section where there will be technical expertise to organize and direct implementation of the Inservice Inspection Program. The formal reassignment of responsibility will be made at the end of the current refueling outage at Oyster Creek. Sufficient manpower will be assigned to the ISI Engineer to support the second ten year program implementation effort. The formal implementation schedules and procedures will be complete by April 1981. In the interim, implementation of the program will continue in accordance with written procedures that will be prepared and approved on an as-needed basis. The personnel assigned responsibilities in the area of program implementation will be given appropriate training to assure that they have a thorough understanding of the program and their responsibilities. Generation Engineering and Quality Assurance will perform technical and quality audits of the program on a frequent basis starting in the fourth quarter of 1980 to assure that the program is being implemented in accordance with the program requirements.

With regard to the first ten year program, JCP&L, for many reasons, has been concerned about whether it had completed all of the requirements. The PAB Team inspection occurred during the preparation for the final outage in the first ten year cycle. As a result, the PAB team recognized that we did have questions on the program completion status and that we were addressing the concern with the objective of completing the program during the upcoming refueling outage. When it was discovered that the problem would require more effort than originally envisioned, JCP&L initiated, with the help of the consultant that developed Oyster Creek's second ten year program, a review of the status of the first ten year program. The purpose was to identify those items that were complete with no outstanding deficiencies, those which have yet to be accomplished, and specific problems that needed to be addressed.

The review is essentially complete, the results have been reviewed and all questionable areas resolved. A presentation on the status of the first ten year program was presented to I & E Region 1 inspectors on March 11, 1980. The only outstanding issues is that of reporting those few inspection commitments that cannot be inspected. These commitments were made by JCP&L before it was recognized that the certain items could not be inspected. The completion of this review with the NRC and resolution of open items will complete the first ten year program. The first ten year program will be completed by the end of the 1980 outage. The required Technical Specification Changes, to address inspections which cannot be done, will be submitted to the NRC by September 1, 1980.

MANAGEMENT PLAN

FOR THE

OYSTER CREEK NUCLEAR GENERATING STATION

RADIOLOGICAL CONTROL PROGRAM

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V. Exposure Reduction/Procedure Preparation

VI. Respiratory Protection

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VIII. Radioactive Material

IX. Plant/Equipment Decontamination

1. INTRODUCTION

The purpose of this plan is to identify the planned corrective actions in the Oyster Creek Nuclear Generating Station (OCNGS) management's commitment to eliminate the identified weaknesses in the OCNGS Radiation Protection Program and to present a schedule for implementation and completion of these corrective actions. The progress made in implementing and completing the identified corrective actions will be closely monitored by the Station Manager and the Supervisor of Radiation Protection. A quarterly status report on the progress made in each of the major areas of deficiency listed below will be prepared by the Station Manager and Supervisor of Radiation Protection for the presentation to the Manager, Generating Stations-Nuclear, Oyster Creek Station. The progress made implementing this plan will be independently monitored by auditing groups and the Radiological Engineering Group. A status report of the Audit group's findings will be reviewed monthly with the Manager, Generating Stations-Nuclear, Oyster Creek Station, and the managerial personnel assigned responsibility for the specific corrective actions.

Certain actions have already been taken to improve the Radiation Protection Program performance. These actions are as follows:

1. The President and Vice President-Generation, of Jersey Central Power & Light Company, held meetings with all of Oyster Creek's managerial and line supervisory personnel to express Oyster Creek's strong commitment to achieving a high quality Radiation Protection Program. They pointed out at these meetings that the Radiation Protection Department is responsible for establishing and maintaining the Radiation Protection Program, which includes the stoppage of any work not being conducted in a radiologically safe manner. It is, however, the responsibility of all personnel at Oyster Creek to ensure compliance with the Radiation Protection Program.

2. A permanent Supervisor of Radiation Protection has been hired.

3. Radiation Protection field operations has been reorganized to provide more supervision in the field, each with specific areas of responsibility. This reorganization, performed expressly for the outage, consists of a Radiation Protection Supervisor on each shift with four (4) Foremen on the first shift and two (2) Foremen on the back shift.

4. Efforts have been made to improve contamination control and to emphasize management's commitment to a high quality Radiation Protection Program. These efforts include:

a. Lectures to all personnel at the station by the Station Manager and the Supervisor of Radiation Protection which discussed the Station's commitment to a high quality Radiation Protection Program and techniques used to minimize contamination.

b. Consultants were brought in to review the current Radiation Protection Program and associated contamination control practices and make recommendations for improvements. These recommendations are being included in the actions cited herein.

c. Improved dressing/undressing areas were provided in an effort to minimize contamination spread.

d. Improved frisking areas have been provided nearer to some work sites as well as at exit points. In addition, new frisking instructions were developed and increased technician surveillance is provided to enforce these instructions at exit points. Significant improvements have been noted in frisking performance.

e. Lectures specific to the radiological controls associated with refueling operations have been given to individuals working in the refueling area.

5. Decontamination operations have been initiated in both the Reactor Building and some outlying areas with the goal to minimize areas requiring protective clothing.

6. A major effort is currently underway to remove "Hot Spots" from the Reactor Building floor drain system. Hot Spots of up to 38 R/hr have been reduced to less than 100 mR/hr.

7. Calibration procedures have been written for those radiation detection instruments identified in NRC letter Docket No. 50-219.

8. The use of contamination containment areas and tents to keep contamination confined has been initiated and will continue to be increased.

9. A major "housecleaning" effort is underway to remove extraneous material from within controlled areas.

10. A Refueling Technical Director has been assigned to each shift to coordinate activities on the refueling floor which includes radiological control practices.

11. All work was stopped on the refueling floor for several days while the area was decontaminated.

The following portion of this plan presents the future planned corrective actions, assigns responsibility for completion of the corrective actions, and assigns a due date for each action planned to correct the identified weaknesses in the Radiation Protection Program.

1. Objective: Estabish firm, visible commitment to a high quality, strictly adhered to Radiation Protection Program via a Radiation Protection Plan/Policy Statement, as well as with all levels of supervision and with workers on the subject. A morale and attitude problem existed, and continues to exist to some degree today, in the radiation protection organization. Personnel within the organization felt that they did not have the authority nor the management support to stop operations in the interest of radiological safety.

a. A Radiation Protection Plan, outlining the philosophy, basic policies and objectives of OCNGS and Jersey Central Power & Light Company has been drafted. This plan will outline the Radiological Program, delineate each worker's responsibilities to support the program, and stress the management's commitment to a high quality Radiation Protection Program.

Action Due Date: April 15, 1980.

Responsible Individual: Supervisor, Radiation Protection

b. Supervisory and Management Development programs will be utilized to upgrade supervisory and management skills of the Radiation Protection Department with emphasis in the Radiological Planning and Control areas as promulgated by the Radiation Protection Plan/Policy Statements.

Action Due Date: Initiation 1 month after outage completion.

Responsible Individual: Supervisor Radiation Protection.

II. RADIOLOGICAL CONTROL ORGANIZATION

1. Objective: Formalize the organizational structure for the Oyster Creek Nuclear Generating Station Radiation Protection Program.

Corrective Actions:

a. Reorganize the Radiation Protection organization to eliminate production related functions and provide better visibility and authority through a direct chain to senior site (or corporate) management. Publish this organization and define areas of responsibility.

Action Due Date: Submit Technical Specification change by May 1, 1980.

Responsible Individual : Nuclear Safety & Licensing Supervisor

b. The Supervisor of Radiation Protection reorganized the Radiation Protection Department. The department reorganization identifies the chain of command and delineates areas of responsibility within the Radiation Protection Department. All contractor controlled radiological functions are included within this organization along with Oyster Creek employees under the management and direction of Oyster Creek/Jersey Central Power & Light Company supervisory personnel.

The Radiation Protection Department activities and functions were reorganized into four groups under the direction of management personnel as follows:

1) Radiological Engineering Group. An outline of this group's functions is as follows:

a) Prepares procedures used in the Radiation Protection Department.

b) Reviews radiation work meeting certain specified criteria to assure that radiological engineering concepts are employed for control of exposure (both internal and external), contamination spread and identifies other unique radiological problems and/or provides solutions.

c) Provides technical support for all Rad Con operations, such as evaluation of survey types and frequencies, instrument usage, contamination control techniques, etc.

d) Assists in performing internal audits of the Rad Con Program.

e) Implements and controls the exposure reduction program.

f) Coordinates the respiratory program.

g) Implements and controls a Radiological Deficiency Reporting system.

h) Reviews and approves radiological support material specifications.

i) Reviews Surveillance Reports, Radiological Deficiency Reports, audit findings and incident reports to assist in determining program weaknesses and developing solutions.

j) Evaluates exposure control levels and evaluates justifications for additional exposure requests.

2) Radiological Field Operations: An outline of this group's functions is as follows:

a) Perform radiological monitoring and implement radiological controls in the field.

b) Staff to assure detailed supervision/review of routine work in order to obtain a quality product.

c) During outage conditions, ensure contractor technicians are supervised by, or work in conjunction with, JCP&L Rad Con personnel.

d) Insure that all work in controlled areas goes through Rad Con responsible for that area.

e) Minimize standing Radiation Work Permits.

f) Provide areas near the work site to frisk and rapidly evaluate samples.

3) Radiation Health and Dosimetry Group. An outline of this group's functions is as follows:

a) Implement medical programs to establish adequacy in today's environment.

b) Implement a bio-assay program including whole body counting, fecal and urine analysis as required, and internal dose commitment.

c) Develop job classification for dosimetry technicians along with a training program establishing minimum standards and requalification cycle.

d) Establish a Quality Assurance Program, which consists of both internal audits and checks, as well as checks against NBS standards.

e) Review systems and procedures to determine adequacy and develop a plan for upgrade.

f) Perform radiation instrument calibration, repair and accountability.

g) Perform respirator testing.

h) Perform specific radiological laboratory analysis associated with radiation health activities.

i) Tests, maintains and issues respriatory equipment.

j) Maintains official radiation protection records.

4) Radiological Training. An outline of this group's functions is as follows:

a. Responsible to the Supervisor of Radiation Protection to ensure adequate training is provided radiation protection personnel consistent with the department's responsibilities.

Action Due Date: Continuing

Responsible Individual: Supervisor Radiation Protection.

C. To assist in providing the Radiation Protection Organization with the necessary documents, a reference library will be assembled in a central location.

Action Due Date: July 15,1980

Responsible Individual: Radiological Engineering Supervisor.

III. TRAINING

1. Objective: Upgrade the knowledge, understanding and ability of Radiation Protection Technicians and radiological workers for performing their job assignments in the radiological environment by improving the training program.

Corrective Actions:

a. The reorganization of the Radiation Protection Department includes the assignment of a Radiation Protection Training Coordinator reporting to the Radiation Protection Supervisor. This individual will be responsible for formalizing the training program for Radiation Technicians and Group Supervisors. He will establish the minimum acceptable knowledge, understanding, practical abilities and experience for qualification of these personnel. Qualification will be verified by the satisfactory performance on a written examination, demonstration of practical abilities and satisfactory performance on an oral examination covering the response to abnormal situations. Particular emphasis will be placed on communcations with others, the Technician's responsibility to enforce radiological requirements and direct others during unusual situations.

Problem-solving sessions which review past abnormal situations or postulated potential situations with student participation will be used by having the students analyze the initial data, state immediate and supplementary protection and corrective actions, communications with workers and operations personnel, taking of additional radiological measurements, and a review of the radiological consequences of the postulated situation.

Training in the performance of practical abilities to assure personnel understand what is expected of them in performing the routine duties will be followed by verification of the performance of the practical abilities by supervision or specially qualified Technicians. These practical abilities include performance during radiological spill drills.

The Radiation Protection Training Coordinator, will administer the program. The practical abilities performance will be verified by training or other qualified Radiation Protection personnel.

Program Description Action Due Date: July 1, 1980

Responsible Individual: Supervisor Radiation Protection

Start of Training Action Due Date: August 1, 1980

Responsible Individual: Supervisor Radiation Protection

Qualification Program Complete Action Due Date: August 1, 1980

Responsible Individual: Supervisor Radiation Protection

Note: Radiation Protection Technician/Group Supervisor not qualified after the above date will be restricted in duties, in writing, until qualified.

b. Radiation orientation and retraining for all personnel except radiation protection personnel employed at OCNGS is being performed by the Training Department.

The Radiation Protection Training Coordinator will review the existing program, develop the criteria for minimum qualification of workers based on their trade/craft and provide guidance to the Training Department in establishing/implementing the Radiation orientation and retraining program for workers. The program will have both written and practical ability demonstration requirements. This program will continue to inform the worker of the risks of radiation exposure, define radiation and contamination, state the limits and administrative control levels, state the worker's responisibilities and rights, familiarize him/her with protective clothing, dosimetry and instruct in proper use of these devices. The worker will also have typical sources of radiation, contamination and airborne radioactivity identified and related to his/her type of work. ALARA principles, procedures and response to abormal situations will be covered.

The Radiation Protection Training Coordinator will periodically audit/evaluate training, recommend changes to the training program, approve course materials, pesentations and practical ability performance.

Program Description Action Due Date: July 1, 1980

Responsible Individual: Training Supervisor

Program Start Action Due Date: August 1, 1980

Responsible Individual: Training Supervisor

Program Complete Action Due Date: Continuing

Responsible Individual: Training Supervisor

c. In addition to the training programs identified above, special training such as mock-up training, walk-through exercises and detailed worker briefing will be required for major evolutions and/or those tasks which may result in encountering unusual or uncertain radiological conditions with significant radiological risk or exposures expected.

The determination of the necessity for this special training will be made by the Radiological Engineering personnel based on the review of work procedures or task definitions. The actual training/briefings will be conducted by technical, operations or maintenance personnel in conjunction with Radiation Protection personnel.

The guidelines for making this determination will be established by Radiological Engineering and disseminated to others. In the interim, this determination will be made by the Radiation Protection Supervisor.

Establish and Distribute Guidelines Action Due Date: 2 months after plant start-up.
Responsible Individual: Radiological Engineering Supervisor

IV. DEFICIENCY ANALYIS/COMMITMENT TRACKING

1. Objective: Improve self-analysis of problems and assure that identified corrective actions are taken.

Corrective Actions:

a. To identify weaknesses in radiological work practices in a more timely fashion and reduce the number of findings resulting from formal audits, an "in house" surveillance program will be developed. It is the intent of this program to document all deficiencies noted, no mattter how apparently insignificant and whether or not they are immediately corrected, to monitor radiological work practices and identify weaknesses in the Radiation Protection Program. These deficiencies can be documented by any worker observing the condition. Copies of the deficiency reports will be distributed to the Radiological Engineering group for review and trend analysis. Recurring minor deficiencies in a particular area or category may indicate a large underlying problem area which necessitates identification on the Radiological Deficiency Reporting System described below.

Action Due Date: May 15, 1980

Resposible Individual: Radiological Engineering Supervisor

b. To identify and track the more generic problems associted with the Radiation Protection Program on either an engineering or management level, a Radiological Deficiency Reporting (RDR) system will be implemented. This system will identify the deficiency noted, the recommended corrective action, the response and an evaluation of that response. The Radiological Engineering section will be responsible for administering the system, but it will be available for use by others to identify and track radiologically related problems and their solutions.

Action Due Date: May 15. 1980

Responsile Individual: Radiological Engineering Supervisor

c. Upgrade the current Radiological Audit Program to provide more frequent and indepth audits of various phases of the Radiological Program. These audits will divide the program into areas, such as those listed below and will be performed both by assigned in house personnel, including Quality Assurance, and by individuals recognized as experts in the specific fields. Frequency of these audits will be at least annually in each area and more frequently in areas that would be considered more likely to have problems or where small problems have a higher potential.

Typical Audit Areas

Exposure Control
Contamination Control
Surveys
Airborne Radioactivity Control
Respiratory Protection
Dosimetry
Instrumentation
Radioactive Material
Training
Emergency Response
Environmental Monitoring
ALARA

Conduct of these audits will be in accordance with pre-developed audit plans developed in consideration of statutory requirements, applicable regulatory guides and ANSI standards, etc., as well as state-of-the-art techniques. Findings will be formally addressed and tracked, and responses will be reviewed by individuals capable of assessing the adequacy of the response.

Beginning Date: June, 1980

Responsible Individual: Supervisor - Quality Assurance Engineering

d. In order to assure adequate management involvement and subsequent corrective actions, all incidents having radiological significance (see listing below) shall be thoroughly investigated, documented and follow-up corrective actions developed. Inclusive in this is immediately stopping associated work in all instances where job continuation could result in a recurrence or deteriorating situation.

CRITERIA FOR HOLDING CRITIQUE/PREPARING INCIDENT REPORT

1) External exposure in excess of 10 CFR 20 limits.

2) Internally deposited radioactivity greater than 5% of MPC.

3) Radioactive skin contamination.

4) Unplanned personnel exposure to concentrations of airborne radioactivity above the 40 hr MPC without respiratory protection.

5) Loss of Control of radioactive material.

6) Spread of contamination in excess of:
   - 50,000 dpm above surrounding contamination levels within a contaminated area
   - spread of contamination outside contamination area.
   - more than 1 gallon of contaminated water ½3 x 10 uci/cc (Co60)

7) Personnel entry into a radiation area or higher radiation area without proper dosimetry.

8) Improper control of high radiation areas.

9) Unauthorized or improper disposal of radioactive material.

10) Other reportable radiologically oriented violations of Technical Specifications, 10 CFR 19, 10 CFR 20.

Action Due Date: April 18, 1980

Responsible Individual: Radiological Engineering Supervisor

V. EXPOSURE REDUCTION/PROCEDURE PREPARATION

1. Objective: Revise and implement procedures which will ensure strict verbatim compliance and revise the procedure review practices to expedite implementation of radiation protection procedures and practices.

Corrective Actions:

a. The format for all Radiation Protection associated procedures will be restructured to achieve verbatim compliance. The revision for all radiation protection procedures is estimated to require six months of work. A priority list for procedure revision will be compiled with procedures which are in non-compliance or important in assuring continuing work is done in a safe manner given the highest priority. Included in this review will be the findings and recommendations made by the Nuclear Regulatory Commission Management Inspection Report: Docket No. 50-219/79-18. Following revision, each procedure will be field tested prior to formal implementation to ensure verbatim compliance is possible.

Action Due Date: Priority listing and schedule April 15, 1980

Rewrite Procedures October 15, 1980

Responsible Individual: Radiological Engineering Supervisor

b. A requirement shall be established that all work procedures which exceed any of the below noted requirements will be reviewed and signed off by Radiological Engineering prior to issue.

Radiological Engineering Review Criteria

1) Total job > 1 Rem
2) Airborne > MPC
3) Surface Contamination > 100,000 dpm
   > 50,000 dpm for airborne activity generating operations
4) Release of contaminated water > 3 x 10-5 uci/cc
5) Radiation levels > 1 R/hr Gamma
   > 2 Rad/hr Beta
6) Non-routine Release to environment

This will insure that ALARA concepts are being employed, exposure budgets are developed, that contamination (airborne and loose surface) is being controlled, and , if there are any special Rad Con precautions, they are so noted. A policy statement is required to implement this immediately, as well as a procedure to be followed over the long term.

Action Due Date: (a) Policy Statement May 1, 1980

(b) Procedure May 1, 1980

Responsible Individual: Radiological Engineering Supervisor

c. Action sign off steps will be added to all work procedures for work on major evolutions during the procedure review performed by Radiological engineers. The purpose of these sign off steps is to ensure a responsible individual verifies by signature that the radiological safety requirements have been satisfied prior to continuing with the work evolution.

Action Due Date: September 1, 1980

Responsible Individual: Radiological Engineering Supervisor

d. To aid in radiation exposure reduction, man rem goals shall be established for each major job and approved by the Radiological Engineering Section. In addition, annual goals will be developed by radiation engineering. These goals will then be compared to actual returns for trend analysis and to determine what operations should be reviewed in more detail to further reduce exposure. A revised system to accomplish the above, provide reports to cognizant supervision and to document action taken to reduce exposure is required.

Action Due Date: September 1, 1980

Responsible Individual: Radiological Engineering Supervisor

e. A Radiological Work Practice Manual will be developed which will establish routine techniques for working in a radiological environment. These techniques shall be directed towards minimizing the impact (e.g., reduce exposure, minimize contamination spread) of working with radioactivity. This manual will continue to be upgraded as improved techniques are developed.

Action Due Date: June 1, 1980

Responsible Individual: Radiological Engineering Supervisor

VI RESPIRATORY PROTECTION

1. Objective: Upgrade the Respiratory Protection Program to assure compliance with NUREG-0041.

A review of the Respiratory Protection Program revealed that improvements should be made in certain areas to further minimize the possibility of ingestion of radioactivity and to assure such ingestion, in fact, has not occurred. The efforts described elsewhere in this plan support and compliment the Respiratory Protection Program, particularly in the training, procedures, decontamination and dosimetry.

Corrective Actions:

a. Management evaluation of the sources of airborne activity and engineering controls is necessary to:

1) Identify and reduce the sources of airborne radioactivity

2) Minimize airborne concentrations

3) Monitor airborne radioactivity in more probable areas. In order to accomplish this evaluation, the Respiratory Protection Supervisor must have available and review surface contamination, air sample and planned work evolution information along with known ventilation air flow information and whole body counting results. This continuing evaluation should identify trends and results in recommendations to minimize airborne radioactivity concentrations in the workplace.

Management Evaluation Program Description Action Due Date: May 16, 1980.

Responsible Individual: Radiological Engineering Supervisor

Initial Management Evaluation Report and Recommendations Due Date: May 16, 1980.

Responsible Individual: Radiological Engineering Supervisor

NOTE: Periodic evaluation reports will be issued, as well as special evaluation reports, where required.

b. A review of existing respiratory protection equipment, air sampling equipment, portable ventilation, small and HEPA filters for use in venting operations, along with a review of facilities, is necessary to identify engineered controls, reduce airborne sources and provide early warning of increases in airborne radioactivity concentrations.

Perform Review and Identify Equipment and Facility Requirements

(Priorities and Target Dates) Action Due Date: May 15, 1980

Responsible Individual: Radiological Engineering Supervisor

Procurement of Equipment Action Due Date: Continuing

Responsible Individual: Radiological Engineering Supervisor

c. Currently the administration of medical examinations does not specifically certify compliance with NUREG-0041 nor do existing procedures give definitive guidelines for the handling of contaminated employees or those having ingested/inhaled radioactivity. The bioassay and medical examination procedures require revision to assure compliance with NUREG-0041 and ANSI N343-76. The medical examination for respiratory protection device users will be combined as a separate section with radiation worker physical examination requirements for ease of administration. The procedure for routine and special bioassays will be revised and made compatible with the procedure for handling contaminated personnel, including follow-up actions such as decontamination, investigation, dose assessment and medical evaluation.

Medical Examination Revision Action Due Date: September 5, 1930

Responsible Individual: Radiological Engineering Supervisor/Supervisor of Radiological Health and Dosimetry.

Bioassay Procedure Revision Action Due Date: April 1, 1980

Responsible Individual: Radiological Engineering Supervisor

d. The administration of the Respiratory Protection Program requires a policy statement and designation of the supervisor in writing and formalization/qualification of personnel who train/operate/test/issue respiratory protective devices. The program will be described and qualified individuals designated in writing as required by NUREG 0041.

Action Due Date: Policy Statement April 4, 1980

Program description April 15, 1980

Responsible Individual: Vice President-Generation
Radiological Engineering Supervisor

e. The Respiratory Protection Supervisor must be made cognizant of the service air system as it relates to the air breathing system and approve all modifications, maintenance and operating procedures and changes to the system and procedures to assure the integrity of the system is not compromised and personnel are protected during these evolutions. The system will be certified as is to assure no previous work has compromised it.

Certification of System Action Due Date: May 2, 1980

Responsible Individual: Radiological Engineering Supervisor

VII DOSIMETRY, INTERNAL AND EXTERNAL

1. Objective: Improve the internal and external personnel dosimetry program. The TLD program utilized by the Oyster Creek Nuclear Generating Station consists of the licensee's in-house system plus TLDs supplied and processed by an off-site commercial vendor. The official dose records are established from data supplied by the off-site vendor. The licensee's in- house program serves as a back-up and provides information for high exposure jobs usually encountered during maintenance and refueling outages. Acceptance criteria has not been established for the TLD Quality Control (QC) Program. Procedural deficiencies exist regarding the type of personnel dosimetry equipment required for individuals allowed inside the restricted area.

Corrective Actions:

a. The current TLD system Quality Control Program is being expanded to include comparison with outside agencies. The outside agency will provide exposure of TLDs to known quantities of Beta energies, Gamma energies (including energy dependence curves), and mixed beta-gamma fields commensurate with the levels of exposure anticipated to be encountered during routine operations and outage conditions.

Action Due Date: May 16, 1980

Responsible Individual: Radiological Health & Dosimetry Supervisor

b. Inter-comparison of monthly processing results, both by the vendor and the licensee, will be performed to resolve processing techniques that do not meet an acceptable criteria of 25% of the applied dose.

Action Due Date: September 6, 1980

Responsible Individual: Radiological Health & Dosimetry Supervisor

c. Personnel neutron dosimetry has not been utilized by the licensee. Neutron doses have been established based on survey data. Neutron film has recently been established in key locations to determine ambient dose rates. An evaluation of the need for Albedo neutron monitoring for personnel use and/or for area monitoring will be performed.

Action Due Date: November 21, 1980

Responsible Individual: Radiological Engineering Supervisor/Radiological Health & Dosimetry Supervisor

d. Dosimetry procedures were upgraded to define the types of dosimetric devices required for personnel allowed inside the licensee's restricted area. Additionally, associated dosimetry forms were upgraded to reflect the requirements for individuals who are exempt from dosimetry issuance.

Action Due Date: Completed

e. Development of job classification for permanent dosimetry technicians, along with a training program setting minimum standards, subsequent certifications, and requalification cycle, is being prepared for the possible processing of all TLDs on site. Initial training by the vendor of the Dosimetry Supervisor and at least one permanent dosimetry technician qualified in I & C repairs is required as a basis for this program.

Action Due Date: Job Classification - August 1, 1980

Training Program - September 1, 1980

Responsible Individual: Radiation Protection Supervisor

f. Through contractor support, technical expertise has been available and utilized to evaluate results obtained from the internal exposure monitoring program. In the future, these efforts will be coordinated and managed by the Radiation Health and Dosimetry group formed in the Radiation Protection Department reorganization described earlier in this plan.

Action Due Date: See Section II.

g. The current bioassay program is being revised to formalize the basis for bioassays under routine conditions, following skin contamination or internal deposition, and evaluations for 90 sr depositions. All dose assessments and evaluations of internally deposited radionuclides will be performed by the Radiation Health and Dosimetry group when established.

Action Due Date: April 18, 1980

Responsible Individual: Radiological Engineering Supervisor

VIII RADIOACTIVE MATERIAL

1. Objective: Upgrade the labeling, packaging, handling and transporting of radioactive material within controlled areas, within the protected area, upon receipt and prior to shipment.

In order to control radioactive material, minimize the generation of solid radioactive waste, assure compliance with shipping and burial site packaging and identification requirements, a well defined, organized and managed radioactive material handling program is necessary.

Corrective Actions:

a. In order to properly coordinate and effect the necessary identification, radioactive contents, package itegrity and minimize exposure due to rehandling, a comprehensive Radioactive Material Handling Program is required with a Radwaste Shipping Supervisor who is responsible to assure safe, effective handling, control, identification, packaging and shipping of this material. The designation of the individual and his responsibilities for procedures, equipment, facilities and coordination of the program is necessary.

Designate Radwaste Shipping Supervisor and Assign Specific Responsibilities
Action Due Date: August 1, 1980

Responsible Individual: Unit Superintendent

NOTE: During the interim, the designated individual will be responsible for taking the necessary prompt actions to assure compliance is realized in handling and preparing radioactive material for shipment to burial sites or other off-site shipments.

b. Preparation of procedures which define how radioactive material is received, monitored, identified, packaged, labeled, stored, transported from controlled areas, protected areas and off-site, including release criteria, shipout procedures, and the means for maintaining status, location and closeout of items, is required.

Identify Procedural Requirements, Date for Procedural Completion Action Due Date: September 1, 1980

Responsible Individual: Unit Superintendent

IX PLANT/EQUIPMENT DECONTAMINATION

1. Objective: Decontaminate the reactor building, equipment and other outlying areas to the maximum extent practical.

Corrective Actions:

a. Assign a task force consisting of representatives of Radiation Protection Operations and Maintenance to:

1) identify radiological conditions
2) develop priorities for decontamination
3) identify Hot Spots and evaluate removal/shielding
4) establish a plan/schedule for action

Action Due Date: August 1, 1980

Responsible Individual: Station Manager

b. Establish an enforceable housekeeping policy to minimize extraneous material from within controlled areas.

Action Due Date: June 1, 1980
Responsible Individual: Station Manager

c. Consistent with a. above, review and identify the sources of contamination and develop a plan of action to prevent or minimize recontamination.

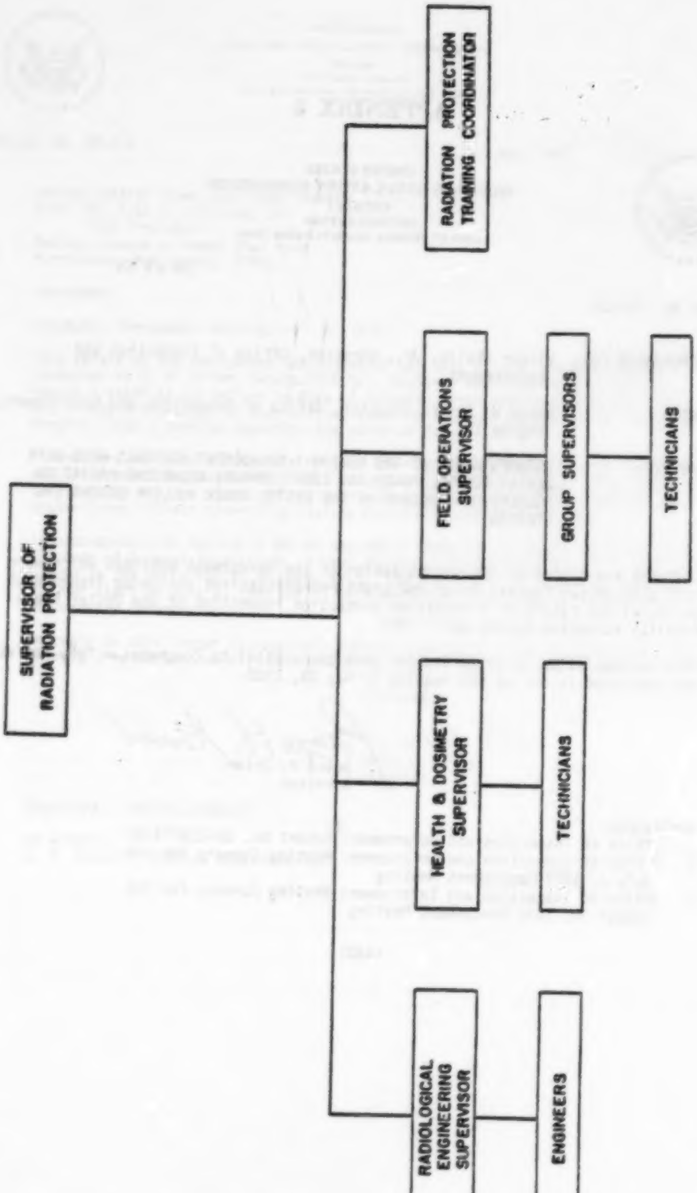
Action Due Date: September 1, 1980

Responsible Individual: Radiological Engineering Supervisor

d. Develop a program to reduce solid waste generation through minimizing material which becomes contaminated, increase reuse of contaminated items and improve decontamination techniques.

Action Due Date: September 1, 1980

Responsible Individual: Task Force


SUPERVISOR OF RADIATION PROTECTION
RADIOLOGICAL ENGINEERING SUPERVISOR
ENGINEERS
HEALTH & DOSIMETRY SUPERVISOR
TECHNICIANS
FIELD OPERATIONS SUPERVISOR
GROUP SUPERVISORS
TECHNICIANS
RADIATION PROTECTION TRAINING COORDINATOR

APPENDIX 5

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

JUN 0 5 1980

Docket No. 50-219

MEMORANDUM FOR: Victor Stello, Jr., Director, Office of Inspection and Enforcement

FROM: Boyce H. Grier, Director, Office of Inspection and Enforcement, Region I

SUBJECT: DOCUMENTATION OF NRC REGION I MANAGEMENT MEETINGS HELD WITH JERSEY CENTRAL POWER AND LIGHT COMPANY REGARDING RADIATION PROTECTION CONCERNS AT THE OYSTER CREEK NUCLEAR GENERATING STATION

Enclosed are copies of the documentation of the management meetings which were held with Jersey Central Power and Light representatives following issuance of an IAL as the result of a radiation protection inspection of the Oyster Creek facility conducted during April 1979.

This documentation is forwarded for your transmittal to Congressman Toby Moffett who requested it during the hearing on May 28, 1980.

Boyce H. Grier
Boyce H. Grier
Director

Enclosures:
1. Office of Inspection and Enforcement Report No. 50-219/79-25
2. Office of Inspection and Enforcement Meeting Summary for the July 6, 1979 Management Meeting
3. Office of Inspection and Enforcement Meeting Summary for the August 30, 1979 Management Meeting

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

Docket No. 50-219

JUN 0 4 1980

Jersey Central Power and Light Company
ATTN: Mr. Ivan R. Finfrock, Jr.
Vice President
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

Gentlemen:

Subject: Management Meeting, July 6, 1979

This refers to the management meeting which was held at your request and was conducted by J. M. Allan, Deputy Director, Region I and other members of the Region I staff at our office in King of Prussia, Pennsylvania on July 6, 1979 and to the discussions of your actions taken to improve your Radiation Protection Program since a meeting regarding the above on June 5, 1979.

The matters reviewed during this meeting are reported on the Office of Inspection and Enforcement Meeting Summary that is enclosed with this letter. The topic of this meeting was the status of implementation of your schedule for upgrading the Oyster Creek Nuclear Generating Station Radiation Protection Program.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosure will be placed in the NRC's Public Document Room. The enclosure was reviewed by members of your staff on June 2, 1980 and it was determined that it does not contain proprietary information.

No reply to this letter is required; however, should you have any questions concerning this matter, we will be pleased to discuss them with you.

Sincerely,

Boyce H. Grier

Boyce H. Grier
Director

Enclosure: Meeting Summary

cc w/encl:
J. T. Carroll, Station Superintendent

JUN 0 4 1980

bcc w/encl:
IE Mail & Files (For Appropriate Distribution)
Central Files
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
Technical Information Center (TIC)
REG:I Reading Room
State of New Jersey
Larry E. Briggs, NRC Resident Inspector

OFFICE ►						
SURNAME ►						
DATE ►						

MEETING SUMMARY

License No. DPR-16

Docket No. 50-219

Licensee: Jersey Central Power and Light Company

Facility: Oyster Creek Nuclear Generating Station

Subject: Status of Implementation of Schedule for Upgrading the Oyster Creek Nuclear Generating Station Radiation Protection Program

Meeting Date: July 6, 1979

1. Attendees

Jersey Central Power and Light (JCP&L)

D. A. Ross, Manager, Nuclear Generation
A. N. Tschaeche, General Electric Company for JCP&L
D. W. Turner, General Electric Company for JCP&L

U.S. Nuclear Regulatory Commission

J. Allan, Deputy Director, Region I
L. Briggs, Reactor Inspector
E. Brunner, Chief, Reactor Operations and Nuclear Support Branch
E. McCabe, Reactor Projects Section No. 1, RO&NS Branch, Region I
G. Smith, Chief, Fuel Facilities and Material Safety Branch

2. Meeting Purpose and Summary

The purpose of this meeting was to determine the status of the implementation of the upgrade plan for the Oyster Creek Nuclear Generating Station Radiation Protection Program. This upgrade plan had originally been submitted by the licensee in the June 5, 1979 Enforcement Management meeting held at NRC Region I.

Licensee representatives presented an implementation schedule from the original plan which had been modified to illustrate the status of each of the items. Region I management noted that the licensee appeared to be adhering to the implementation schedule presented in the previous meeting.

Regional management presented the following comments and observations:

- -- There appeared to be a need for additional administrative assistance to the Station Manager. This additional assistance would permit the Station Manager to get more involved in day to day station activities.
- -- There was a need for a formal in-plant health physics audit program.
- -- A radiation protection training/retraining program should be established.
- -- Radiation protection involvement in Emergency Planning appeared limited.
- -- A Health Physicist should be placed on the Plant Operations Review Committee (PORC).
- -- There was a definite need for improved ALARA and respirator protection programs.

Licensee representatives concurred and indicated action would be taken to address the above areas.

The licensee representatives requested an additional meeting, which would be held in approximately one month, to further update Region I on the status of the upgrade items. Region I concurred on this request.

George H. Smith, Chief
Fuel Facilities and Materials
Safety Branch

bcc w/encl:
IE Mail & Files (For Appropriate Distribution)
Central Files
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
Technical Information Center (TIC)
REG:I Reading Room
State of New Jersey
Larry E. Briggs, NRC Resident Inspector

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

JUN 04 1980

Docket No. 50-219

Jersey Central Power and Light Company
ATTN: Mr. Ivan R. Finfrock, Jr.
Vice President
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

Gentlemen:

Subject: Region I Management Meeting, August 30, 1979

This refers to the meeting, held at your request, with members of my staff on August 30, 1979 at our office in King of Prussia, Pennsylvania and to the discussions of your planned and completed improvements in your Oyster Creek Nuclear Generating Station Radiation Protection Program which occurred during the subject meeting.

The matters discussed during this meeting are described in the Office of Inspection and Enforcement Meeting Summary which is enclosed with this letter.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosure will be placed in the NRC's Public Document Room. The enclosure was reviewed by members of your staff on June 2, 1980 and it was determined that it does not contain proprietary information.

No response to this letter is required; however, should you have any questions concerning these matters, we will be pleased to discuss them with you.

Sincerely,

Boyce H. Grier

Boyce H. Grier
Director

Enclosure: Office of Inspection and Enforcement
Management Meeting Summary

cc w/encl:
J. T. Carroll, Station Superintendent

MEETING SUMMARY

License No. DPR-16

Docket No. 50-219

Licensee: Jersey Central Power and Light Company

Facility: Oyster Creek Nuclear Generating Station, Forked River, New Jersey

Meeting Date: August 30, 1979

Subject: Update of Licensee's Planned and Completed Improvements in the Oyster Creek Radiation Protection Program

1. Attendees

   Jersey Central Power and Light Company

   D. R. Ross, Manager, Nuclear Generation
   J. Carroll, Jr., Oyster Creek Station Manager
   W. Garvey, Director, Station Administration
   D. W. Turner, General Electric Company

   U.S. Nuclear Regulatory Commission

   J. Allan, Deputy Director, Region I
   G. Smith, Chief, Fuel Facilities and Materials Safety Branch, Region I
   J. White, Radiation Specialist, Region I
   L. Briggs, Reactor Inspector

2. Meeting Purpose and Summary

   The purpose of this meeting was to discuss the implementation of the licensee's planned and corrective actions to upgrade the Oyster Creek Nuclear Generating Station's Radiation Protection Program. Previous meeting, conducted on June 5, 1979 (NRC requested) and July 6, 1979 (Licensee requested) also addressed this matter.

   During this meeting, licensee representatives provided a modified implementation schedule for improving the licensee's Oyster Creek facility's Radiation Protection Program. The original schedule had been provided during the June 5, 1979 meeting. The schedules provided at the July 6, 1979 and this meeting (August 30, 1979) had been modified to illustrate licensee progress in implementing the schedule.

Region I management noted the licensee to be on schedule and indicated completion of the upgrade plan would improve the overall quality of the licensee's Radiation Protection Program, however an inspection of this facility would be necessary to determine adequacy and effectiveness of implementation.

George H Smith

George H. Smith, Chief
Fuel Facility and Materials
Safety Branch

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

Docket No. 50-219

JUN 0 5 1980

Jersey Central Power and Light Company
ATTN: Mr. Ivan R. Finfrock, Jr.
Vice President
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

Gentlemen:

Subject: Management Meeting 50-219/79-25

This refers to the management meeting conducted by myself and other members of the Region I staff at our office in King of Prussia, Pennsylvania, on June 5, 1979 and to the discussions of our concerns with regard to the finding of Radiation Protection Inspection 50-219/79-07 which had prompted this office to convene this meeting.

The matters discussed during this meeting are described in the Office of Inspection and Enforcement Report which is enclosed with this letter.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. The enclosure was reviewed by members of your staff on June 2, 1980 and it was determined that it does not contain proprietary information.

Should you have any questions concerning this letter, we will be glad to discuss them with you.

Sincerely,

Boyce H. Grier

Boyce H. Grier
Director

Enclosure: Inspection Report No. 50-219/79-25

cc w/encl:
J. T. Carroll, Station Superintendent

JUN 0 5 1983

bcc w/encl:
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Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
Technical Information Center (TIC)
REG:I Reading Room
State of New Jersey
Larry E. Briggs, NRC Resident Inspector

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-219/79-25

Docket No. 50-219

License No. DPR-16 Priority -- Category C

Licensee: Jersey Central Power & Light Company
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

Facility Name: Oyster Creek Nuclear Generating Station

Meeting at: USNRC, Region I, King of Prussia, Pennsylvania

Meeting conducted: June 5, 1979

Prepared By: RLNimitz
R. L. Nimitz, Radiation Specialist
5/27/80 date signed

date signed

date signed

Approved by: George H. Smith
G. H. Smyth, Chief
Fuel Facilities and Materials Safety Branch
5/27/80 date signed

Meeting Summary:

Enforcement Meeting on June 5, 1979 (Report No. 50-219)

Special meeting convened by Region I management to discuss NRC concerns relating to NRC Radiation Protection Inspection No. 50-219/79-07. The meeting was held to discuss licensee immediate corrective actions and long term plans for improving the licensee's Radiation Protection Program.

Region I Form 12-1
(Rev. August 77)

DETAILS

1. **Attendees**

Jersey Central Power and Light Company (JCP&L)

J. T. Carroll, Jr., Oyster Creek Station Manager
I. Finfrock, Vice President, Generation
A. N. Tschaechl, General Electric
D. W. Turner, General Electric

U.S. Nuclear Regulatory Commission

B. Grier, Director
J. Allan, Deputy Director, Region I
L. Briggs, Reactor Inspector
E. Brunner, Chief, Reactor Operations and Nuclear Support Branch
R. Keimig, Reactor Projects Section No. 1, RO&NS Branch, Region I
D. Neely, Radiation Specialist, Region I
G. Smith, Chief, Fuel Facilities and Materials Safety Branch, Region I

2. **Background**

As a result of written allegations received by the Region I Office of Inspection and Enforcement (OIE), a special Radiation Protection Inspection was conducted April 18-20, 1979 to review these allegations. Region I OIE Report 50-219/79-07 details the findings of this inspection.

Based on the findings of this special inspection, Immediate Action Letter No. 79-04 was issued to the licensee on April 25, 1979 to confirm implementation or immediate corrective actions for these findings.

The Immediate Action Letter confirmed the following:

-- A qualified corporate Health Physics (HP) manager and additional qualified HP supervisors would be assigned to the site by May 15, 1979;

-- A comprehensive plan to upgrade the HP program with a plan implementation schedule would be submitted by June 1, 1979;

-- Additional radiation protection training for workers and those providing health physics coverage would be initiated no later than June 1, 1979 and;

-- A report of a personnel contamination incident, which occurred on March 16, 1979, would be submitted by May 9, 1979.

The meeting, discussed in the following paragraph, was convened to express NRC concern over the inspection findings, to determine the status of the immediate action letter items, and to review corrective actions described in the licensee reply dated February 5, 1979 to a NRC Notice of Violation enclosed with a letter to the licensee dated January 12, 1979.

3. Meeting Summary

NRC Region I Director, B. H. Grier, opened the meeting by expressing strong concern over the quality of the Radiation Protection Program at Oyster Creek as evidenced by Special Radiation Protection Inspection No. 50-219/79-07.

The findings of this inspection were presented to the licensee management. Region I management also presented the following items which required additional licensee management attention:

-- The need for a procedure detailing when to wear protective clothing;

-- The need for additional licensee emphasis in the area of contamination control practices;

-- The need for improvement in the airborne radioactivity sampling program;

-- Additional licensee emphasis on the necessity for frisking properly; and

-- Greater emphasis on housekeeping at the Oyster Creek Facility.

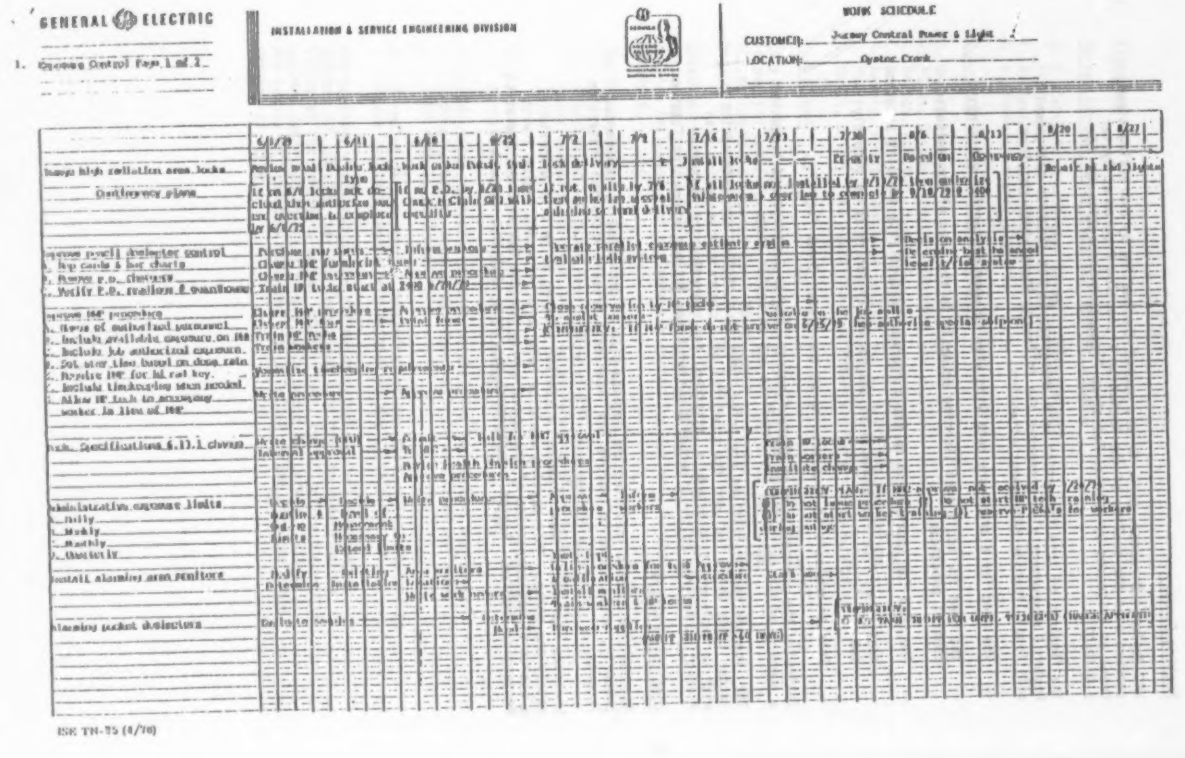
Following the presentation of these findings, Region I management requested a summary of the status of the immediate action letter items.

The licensee representatives presented the status of the immediate action letter items which included the submittal of a comprehensive action plan with an implementation schedule (attached) for upgrading the Radiation Protection Program at the licensee's Oyster Creek Nuclear Generating Station.

4. Concluding Remarks

Regional management indicated the upgrade plan as presented if implemented properly, would serve to improve the licensee's present Radiation Protection Program.

Licensee representatives requested a similar meeting be held in approximately one month. This meeting would be held to provide NRC Region I with a status of implementation of the upgrade plan for the Oyster Creek Radiation Protection Program. Region I management concurred with this request.



GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: Jersey Central Power & Light

LOCATION: Oyster Creek

1. Exposure Control Page 1 of 2

6/4/79 | 6/11 | 6/18 | 6/25 | 7/2 | 7/9 | 7/16 | 7/23 | 7/30 | 8/6 | 8/13 | 8/20 | 8/27

Change high radiation area locks

Contingency plans

Exposure pencil dosimeter control

A. Rep cards & bar charts

B. Review P.O. changes

C. Verify P.O. receipt & quantities

Exposure RWP procedure

A. Names of authorized personnel

B. Include available exposure on RWP

C. Include job authorized exposure.

D. Set stay time based on dose rate

E. Require RWP for hi rad key.

F. Include timekeeping when needed.

G. Allow HP tech to accompany worker in lieu of RWP

Tech. Specifications 6.13.1 change

Administrative exposure limits

A. Daily

B. Weekly

C. Monthly

D. Quarterly

Install alarming area monitors

Alarming pocket dosimeters

ISE TN-75 (4/76)

GENERAL ELECTRIC

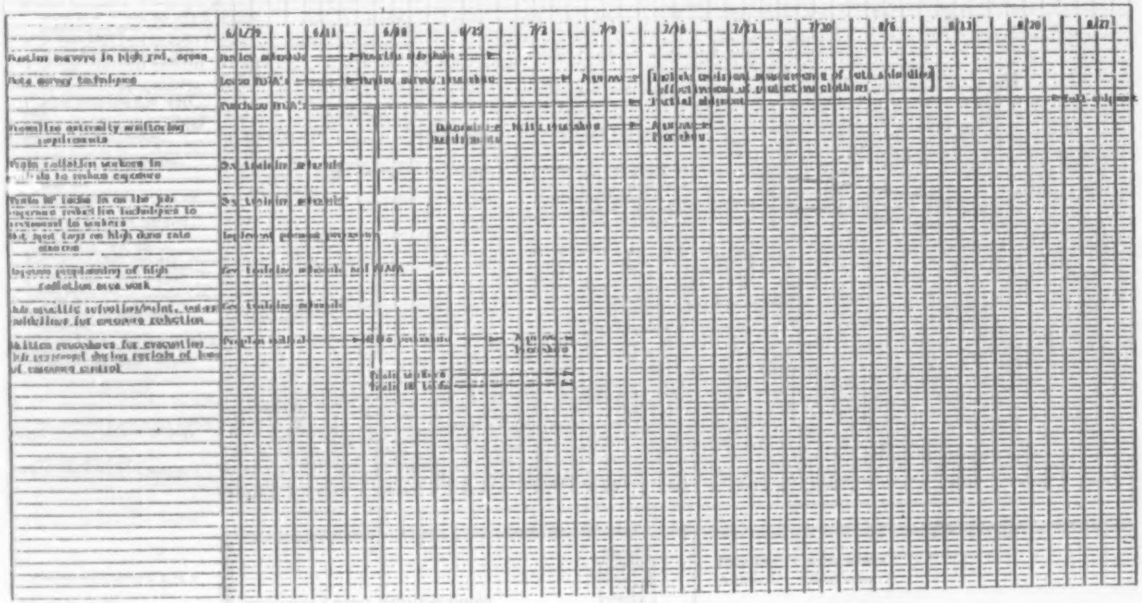
INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

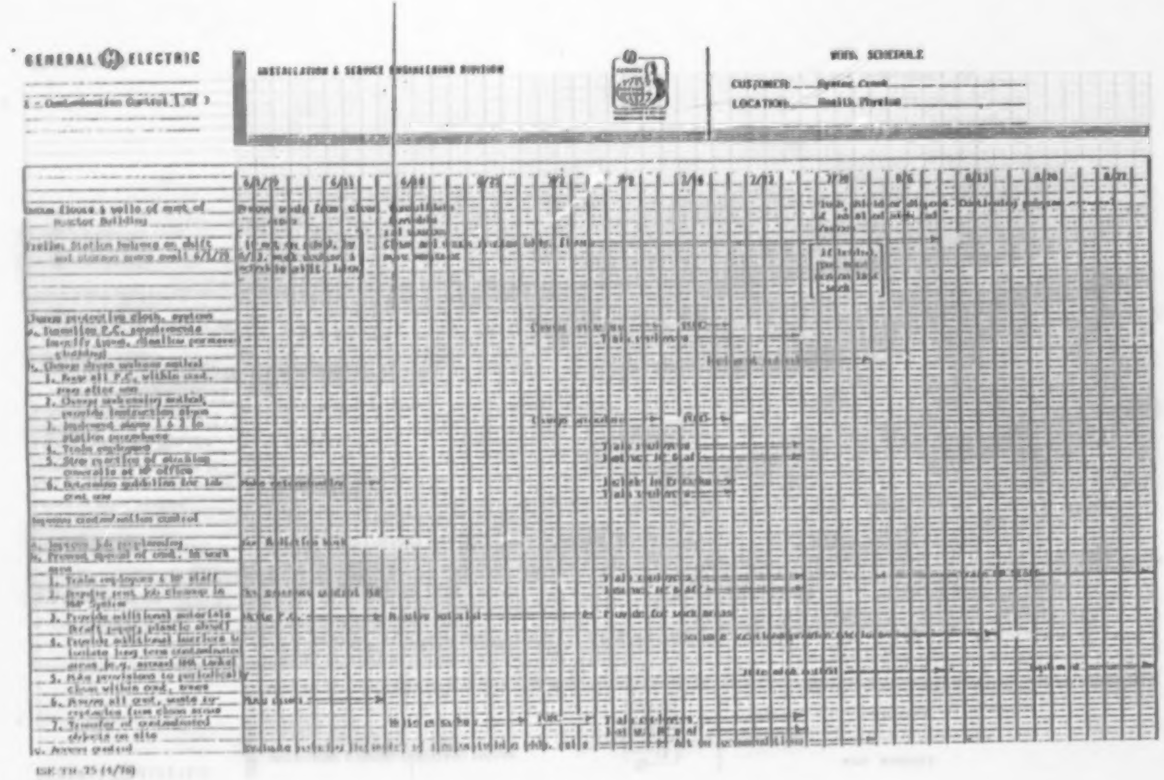
CUSTOMER: Jersey Central Power & Light

LOCATION: Oyster Creek

1. Exposure Control Page 1 of 2



	6/1/79	6/11	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27
Routine surveys in high rad. areas	Revise schedule —— Routine schedule ——												
Data survey techniques	Lease TLD's —— Evaluate survey practices —— [illegible]						[Include continuous measurement of data shielding effectiveness of protective clothing]						
	Purchase TLD's						Initial shipment						Final shipment
Formalize extremity monitoring requirements				Determine requirements —— Write procedure ——			Approve procedure						
Train radiation workers in methods to reduce exposure	See training schedule												
Train HP techs in on the job exposure reduction techniques to personnel in workers	See training schedule												
Put [illegible] tags on high dose rate sources	Implement program [illegible]												
Improve preplanning of high radiation area work	See training schedule and ALARA												
Use specific scheduling/maint. [illegible] guidelines for exposure reduction	See training schedule												
Written procedures for evacuation [illegible] personnel during periods of loss of exposure control	Prepare outline ——		write procedure ——			Approve procedure							
			Train workers Train HP techs ——										



GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: [illegible]

LOCATION: Health Physics

[illegible] Contamination Control 1 of 3

	6/1/79	6/15	6/29	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27
Decon floors & walls of most of Reactor Building	[illegible]							[illegible]				
Position HP Station helpers on shift and storage room until 6/1/79	[illegible]		Clean and [illegible]									
Improve protective cloth. system												
Improve contamination control												
1. Train employees & HP staff						Train employees Instruct HP Staff						
2. Require cont. job cleanup in RWP System												
3. Provide additional materials (kraft paper, plastic sheet)						Provide for work areas						
4. Provide additional barriers to isolate long term contaminated areas (e.g. around RHR tanks)												
5. Make provisions to periodically clean within cont. areas												
6. Remove all cont. waste receptacles from clean areas												
7. Transfer of contaminated objects on site						Train employees Instruct HP Staff						
Access control												

ISE TH-75 (4/76)

GENERAL ELECTRIC

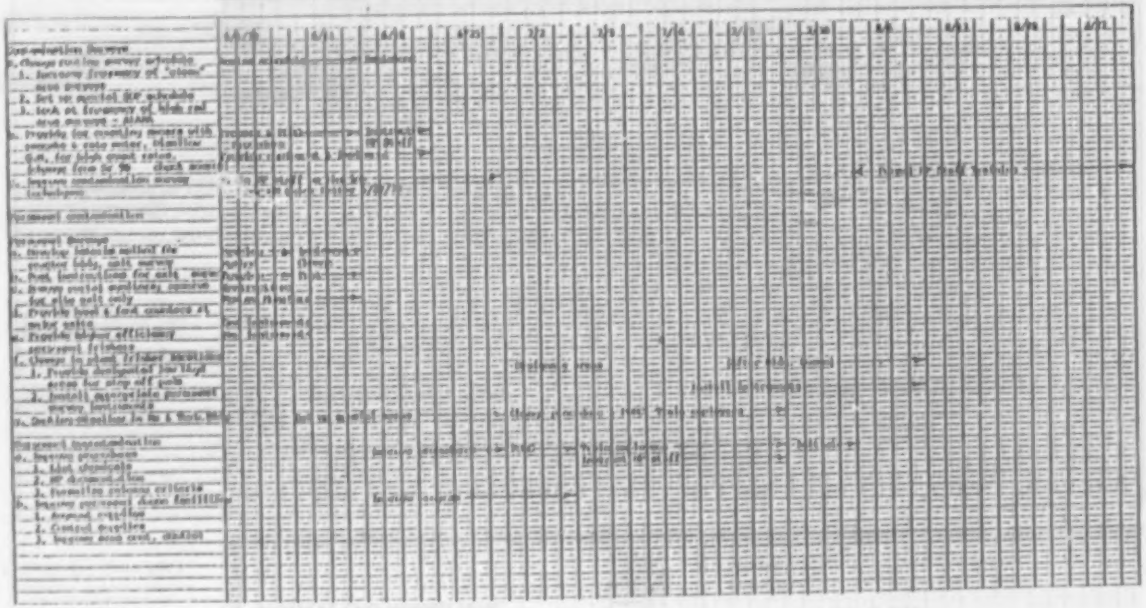
Contamination Control 2 of 3

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER:

LOCATION:



Contamination Survey
a. Change routine survey schedule
1. Increase frequency of "clean" area surveys
2. Set up special RP schedule
3. Look at frequency of high rad area surveys - ALARA
b. Provide for counting smears with [illegible] & rate meter, [illegible] G.M. for high count rates. [illegible] check [illegible]
c. Improve contamination survey technique

Personnel contamination

Personnel Surveys
a. Develop [illegible] method for [illegible] survey
b. Post instructions for exit [illegible]
c. [illegible] control [illegible] for [illegible] only
d. Provide hand & foot counters at [illegible] exits
e. Provide higher efficiency [illegible]
f. Change in plant [illegible]
1. Provide designated [illegible] area for step off pads
2. Install appropriate personnel survey instruments
g. [illegible] in [illegible] & Work Area

Personnel Decontamination
a. Improve procedures
1. [illegible] chemicals
2. RP documentation
3. Formalize [illegible] criteria
b. Improve personnel decon facilities
1. Expand supplies
2. Control supplies
3. Improve [illegible]

GENERAL ELECTRIC

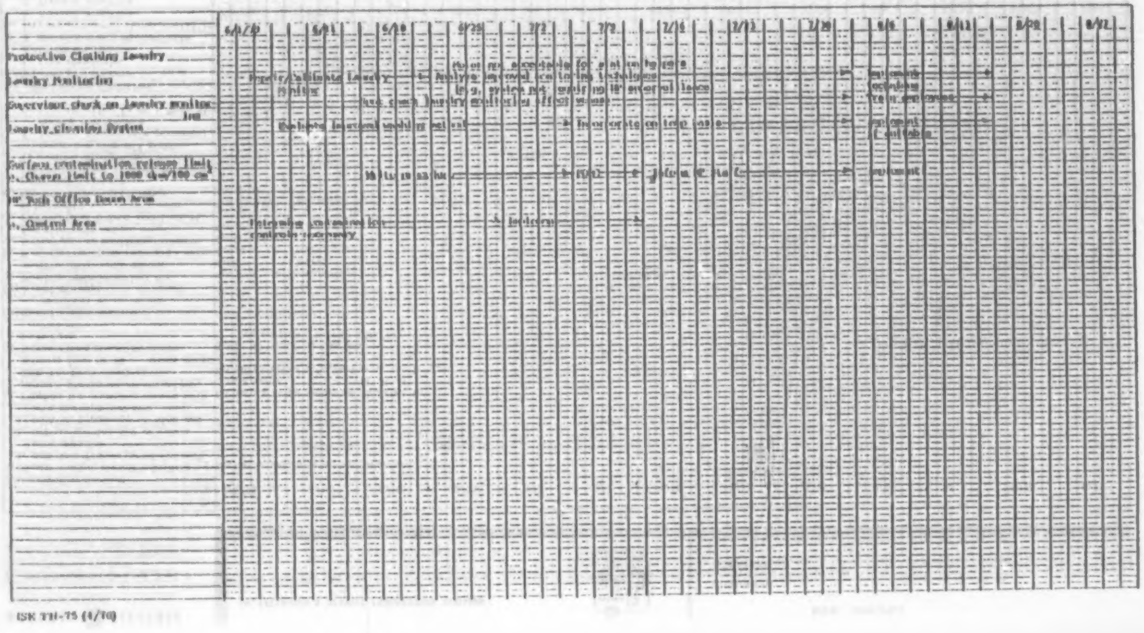
2 Contamination Control 2 of 2

INSTALLATION & SERVICE ENGINEERING DIVISION

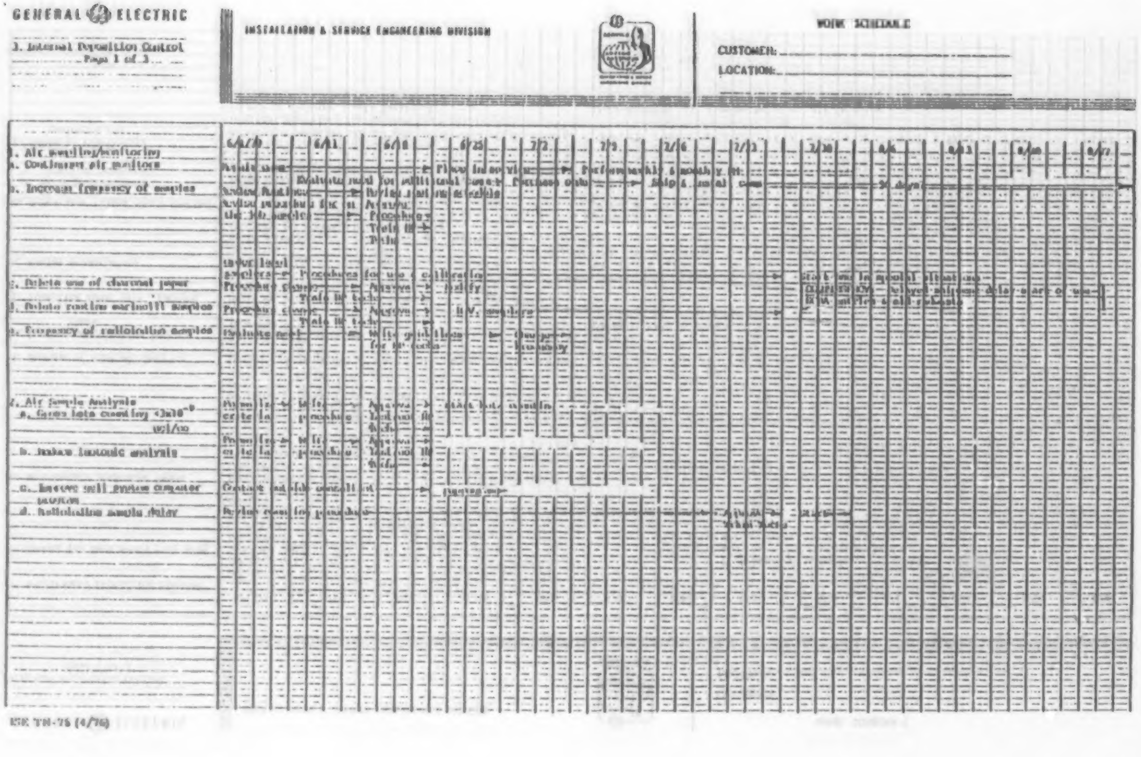
WORK SCHEDULE

CUSTOMER: __________

LOCATION: __________



ISK TH-75 (4/70)



GENERAL ELECTRIC

3. Internal Deposition Control
Page 1 of 3

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER:
LOCATION:

	6/4/79	6/11	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27
1. Air sampling/monitoring													
a. Continuous air monitors	[illegible] →		→ Place into service →		Perform weekly & monthly ck.								
		Evaluate need for additional [illegible] →			Purchase only →		Ship & install [illegible]		30 days →				
b. Increase frequency of samples	[illegible] →	Revise station schedule											
	Revise procedure for [illegible] the job samples →	Approval Procedures Train HP Train [illegible]											
	Lower level samplers →	Procedures for use & calibration					→	Start use in special situations [illegible] delayed shipment delay start of use [illegible]					
c. Delete use of charcoal paper	Procedure change →	Approval → Notify Train HP techs →											
d. Delete routine [illegible] samples	Procedure change →	Approval → H.V. members Train HP techs →											
e. Frequency of radioiodine samples	Evaluate need →	Write guidelines for HP techs →			Ongoing [illegible]								
2. Air Sample Analysis													
a. Gross beta counting <3x10^{-9} µCi/cc	Procedure criteria →	Write procedure →	Approval → [illegible] Train HP [illegible]	[illegible]									
b. Isotopic analysis	Procedure criteria →	Write procedure →	Approval Train HP [illegible]										
c. Recover cell system computer program	Contact outside consultant →			Debug program									
d. Radioiodine sample delay	Revise counting procedure →						[illegible]	[illegible]					

GE TN-75 (4/76)

GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

3. Internal Deposition Control
Page 2 of 3

WORK SCHEDULE

CUSTOMER:

LOCATION:

a. Respiratory protection program	[illegible]
b. Remove 1/2 face masks from site.	[illegible]
c. Respiratory equipment issue	[illegible]
d. [illegible]	[illegible]
e. Storage of SCBA air bottles	[illegible]
f. Perform quantitative leakage tests	[illegible]
g. [illegible]	[illegible]
h. Facial measurements	[illegible]
i. Respirator filter canister testing	[illegible]
j. Minimize respiratory equipment use	[illegible]

ISE 714-75 (4/76)

GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: ______

LOCATION: ______

3. Internal Population Control
Page 3 of 3

	6/4/79	6/11	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27
4. Bioassay program													
a. Formalize guidelines	Review decision [illegible] — [illegible] write procedure — → approval → I												
b. Whole body counter	Analysis on [illegible] t/ lab input system — → Purchase order to provide [illegible]												
c. QA program	[illegible] → QA [illegible] test run —												

ISE-TIL-75 (4/76)

GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: ____________

LOCATION: ____________

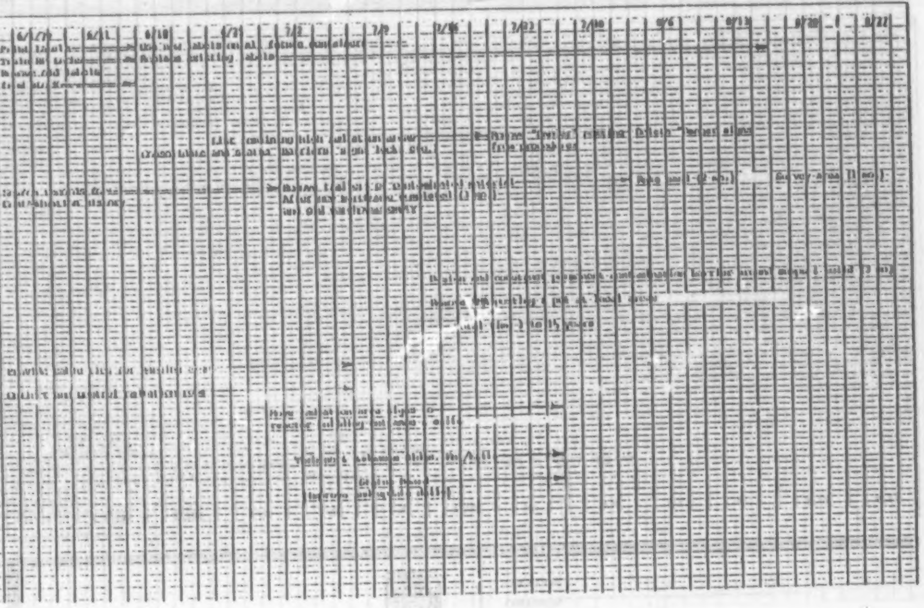
4. Posting & Labelling
Page 1 of 1

1. Consolidate "Caution Radioactive Material" container labels

High Radiation Areas
A. Consolidate Hi Rad. Area

3. Inside radioactive materials areas

4. Miscellaneous



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GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

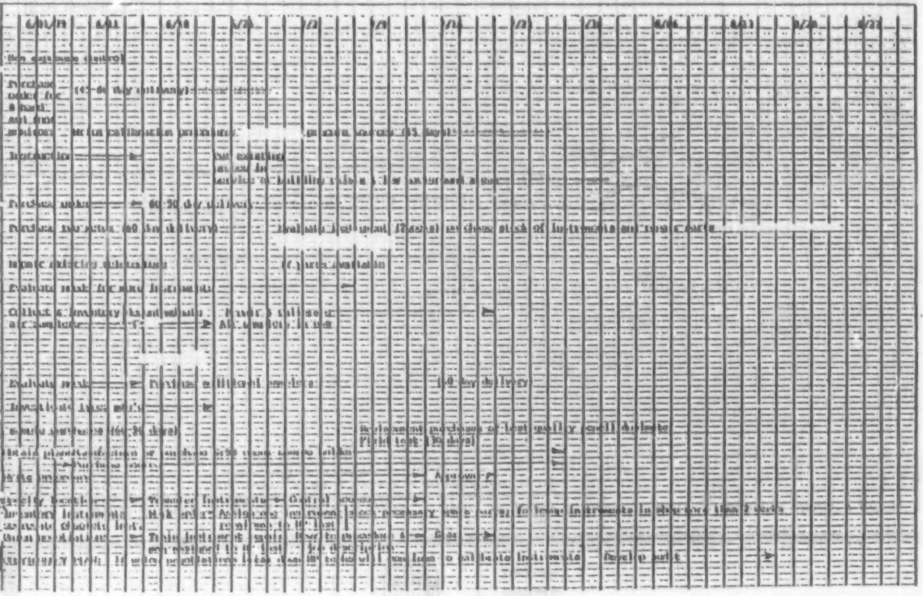
WORK SCHEDULE

CUSTOMER:

LOCATION:

5. Health Physics Instruments

1. Change the basic dose rate instrument from PIC6A to 902A
2. Permanent contamination instruments.
   A. Hand and foot monitors
   B. Portable [illegible]
3. Extendable probe instruments
4. Portable air samplers
5. Improve quality of pencil dosimeters (self-reading)
6. Obtain check source for dose rate instruments
7. Evaluate minimum detectable level for count monitors including count rate meters
8. Centralize HP supply
9. Expedite repair of HP instruments
10. Change instrument calibration responsibility to instrument shop
Develop [illegible] audit of records
21 HP audit with source check



ISE TH 75 (4/70)

GENERAL ELECTRIC

6. Training Page 1 of 2

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER:

LOCATION:

	6/4/79	6/11/79	6/18/79	6/25/79	7/2/79	7/9/79	7/16/79	7/23/79	7/30/79	8/6/79	8/13/79	8/20/79	8/27/79
Radiation Worker Training		Develop training →		Provide training (If training is not on schedule at end of 7/[illegible] week, schedule worker overtime to complete.)									
a. Provide additional training for radiation workers: low level dose-effect controversy, exposure control techniques, contamination control techniques, self monitoring, new H.P. procedures													
b. Upgrade radiation worker orientation.													
Prepare lesson guide - reschedule most training and ocassional exposure training		Prepare guide →											
Rewrite radiation orientation booklet.							Rewrite booklet →			Print new booklet →			
Evaluate instructor and change if appropriate.	Evaluate instructor →						Action →						
Health Physics Technician and Group Supervisor Training			Evaluate further needs — develop outline →				Approve outline →	Develop training →		Provide training →			
a. NUS technical training	NUS tech. training →												
b. Practical factors training 1. Help weaknesses 2. In-plant practical factors 3. New plant procedures as basis													
Radiological Engineering Training												Identify candidate →	
a. Identify candidate for position identify any weakness													
b. Provide training 1. Rad engineering 2. Systems training 3. Alternate site outage H.P. familiarization	(A. is. ontone)												

ISE TII 75 (4/76)

GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: ____________

LOCATION: ____________

6. Training Page 1 of 1

	5/1	6/1	6/15	6/29	7/2	7/6	7/26	7/23
Training Management - Evaluate transferring of training function to Sr. Administrator, Training	Perform evaluation →			Transfer [illegible] [illegible] (planned) →				
Waste Rate Counting - If in house system is chosen - identify individual responsible for waste rate counting - Provide waste rate counting counting techniques and internal [illegible] training	After [illegible] (lead [illegible])						[illegible] by individual (lead [illegible]) →	

GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER:

LOCATION:

7. Dosimetry & exposure estimate monitoring

	6/1/72	6/11	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27
1. Dosimeter TLD reports Institute cumulative reports	Reviewed existing program, form	Give [illegible] histories for cumulative report					[illegible] into [illegible] system						
2. Dep cards & hist. charts	Dev. [illegible] control												
3. Review P.O. charges & [illegible]	Dev. [illegible] control												
4. Evaluate parallel exposure estimating system	Dev. exposure control												
5. Stimulate approvals for [illegible] NRC Form 5's			Query [illegible] approvals										

NOTE: Dosimetry Program evaluation partially completed

GSK TH-75 (4/70)

GENERAL ELECTRIC

8. Radiation Work Procedures.
9. ALARA

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER:

LOCATION:

	6/4/79	6/11	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27
1. Redesign control rod drive repair room	Evaluate mockup results in-house ← Design facility ← Mock up → Assess present cleanup, concrete wall location												
2. CRD replacement	Evaluate replacement time ← Recommendations to reduce time Presently 4 [illegible] crews												
3. Reduce high radiation areas	See housekeeping												
4. Eliminate routine housekeeping inspections in hi rad areas	Position letter ← Sign →												
5. ALARA corporate statement	Write statement ← Issue statement →												
6. Formal written ALARA program	Give responsibility to ALARA coordinator ← Review & Approve → Implement thru ALARA coordinator, rev. 2												
7. Reduce HP surveys of normally unoccupied hi rad areas	Change procedure ← Implement												
8. Minimize time spent in hi rad areas comm. QA & HP	[illegible] to QA Change QA procedure Techniques which shows for HP [illegible]												
9. HP technician on site	[illegible]												
10. Administrative exposure limits	See exposure control												
11. Shielding	[illegible] (partially [illegible] housekeeping)												
12. Line flushing	See housekeeping												
13. Calculate extendable probe dose rate instruments & RM-14's	See instruments												
14. HP tech tour	Present on site ← Increase use thru HP tech training → See training												
15. ALARA planning guide on HP	See exposure control HP schedule												
16. Evaluate monitoring techniques	See alternative [illegible]												

ISE TN 75 (4/76)

GENERAL ELECTRIC

10. Incident reports

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: ________________

LOCATION: ________________

	6/4	6/11	6/18	6/25
Review guidelines for investigating & reporting radiation occurrences when required by 10 CFR 20.402-405	Program published			
Should include:				
Investigation (critique)				
Critique notes				
Incident report				
Should identify:				
Specific causes				
Temporary corrective actions taken at time				
Permanent corrective actions & due dates				
Each cause should be then corrected				
Should include				
survey results				

GENERAL ELECTRIC

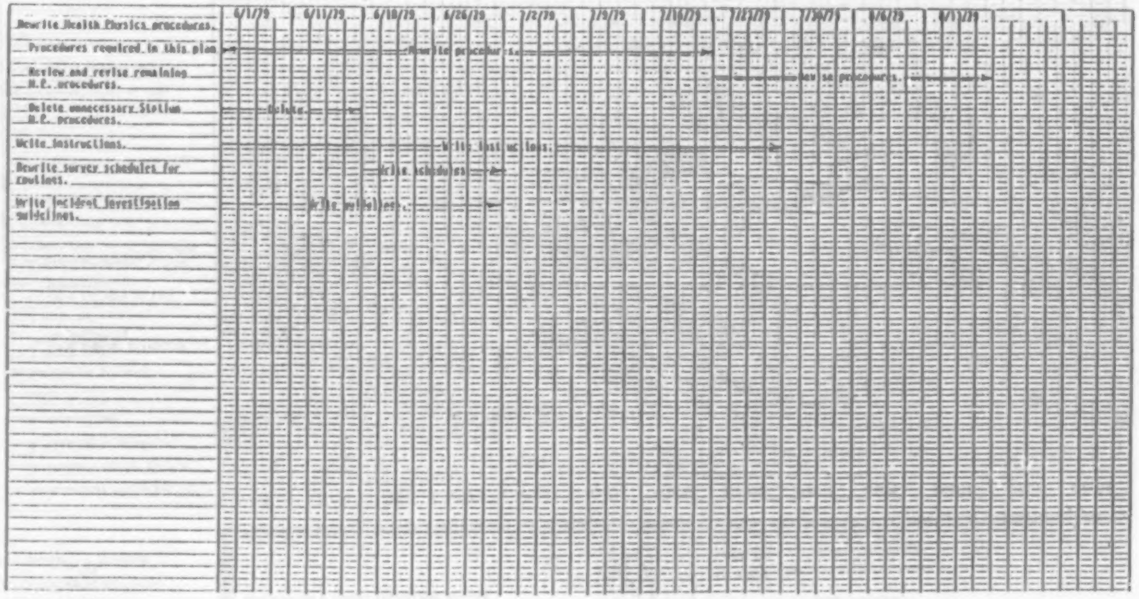
INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: ____________________

LOCATION: ____________________

11. Health Physics procedures, routines, guidelines, and instructions.



Rewrite Health Physics procedures.

Procedures required in this plan

Review and revise remaining H.P. procedures.

Delete unnecessary Station H.P. procedures.

Write instructions.

Rewrite survey schedules for routines.

Write incident investigation guidelines.

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GENERAL ELECTRIC

12. Environmental Monitoring
and
13. Radioactive Shipments

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: ____

LOCATION: ____

	6/4/79	6/11/79	6/18/79	6/25/79	7/2/79	7/9/79	7/16/79	7/23/79	7/30/79	8/6/79	8/13/79	8/20/79	8/27/79
A. Environmental Monitoring													
1. Evaluate present program									Evaluate				
2. Evaluate QA of program										QA			
3. Close on QA			See schedule under packaging and labeling.										
B. Radioactive Shipments													
1. Curie content estimation for package(s)	Provide as indicated as necessary & practicable.												
2. Curie estimate on cask shipments						Evaluate sampling techniques and radiochemical analysis of curie estimate							
3. Evaluate shipping papers										Evaluate			

GENERAL ELECTRIC

34. Cost Control

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER: ____________

LOCATION: ____________

	6/4/79	6/11/79	6/18/79	6/25/79	7/2/79	7/9/79	7/16/79	7/23/79	7/30/79	8/6/79	8/13/79	8/20/79	8/27/79
HP management staffing	Evaluate need	→ Evaluate qualifications								→ Recommend changes →			
Computerized HP records	Evaluate need			→ Decision on analysis [illegible] schedule									
HP tech. efficiency is low.	On the job training by S. Supervisors									HP tech. training classes			
	Increase experience												
	Increase [illegible] → [illegible]			→ Assure HP techs. [illegible] peripheral program									
	(scheduling patterns)												
Improved equipment evaluation													
Communicate with other [illegible]'s, especially Instr. repair shops.													
Test equipment prior to purchase.													
Develop objectives of equipment prior to purchase.													
Duplication of paperwork						Evaluate need to duplicate paperwork	→ Eliminate where possible without compromising quality						
Contractor whole body counting very expensive.		See Dosimetry schedule.											
Too many contractor HP Technicians used during outage.							Outage preplanning to determine number of technicians required →				Hire better qualified and fewer HP technicians for outages.		

ISE TH 75 (4/76)

GENERAL ELECTRIC

INSTALLATION & SERVICE ENGINEERING DIVISION

WORK SCHEDULE

CUSTOMER:
LOCATION:

15. Miscellaneous

	6/1/79	6/11	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27
1. Follow up housekeeping instructions	Write letter →		Reporting each week to perform weekly inspections weekly inspections by Station Superintendent										
2. Reduce emphasis on HP procedure "violation" punitive actions	Rewrite orientation module (see training schedule)												
3. Follow up of health physics concerns thru chain of command	Expedite follow up of corrective actions →												

ISE 711-75 (4/76)

APPENDIX 6

INDIVIDUAL SITE RATINGS

From The

IE EMPLOYEE SURVEY ON EVALUATION OF LICENSEES

April 1978

Stephen K. Conver

IE Study Group

Office of Inspection and Enforcement

U. S. Nuclear Regulatory Commission

INDIVIDUAL SITE RATINGS
From The
IE EMPLOYEE SURVEY ON EVALUATION OF LICENSEES

Background

This report documents the "Individual Site Rating" portion of the "IE Employee Survey on Evaluation of Licensees" that was conducted in the fall of 1977. The purpose of this survey was to solicit the views of employees of the Office of Inspection and Enforcement (IE) on a variety of subjects related to Licensee Performance Evaluation (LPE). For several years, IE has been attempting to develop a method of identifying those licensees whose level of performance (as measured principally, but not solely, by compliance) requires improvement.

A persistent IE staff criticism of early in-house efforts to develop an LPE methodology was that proposed quantitative rating schemes did not capture the subjective judgments of those Regional employees familiar with the specific licensed activities. This questionnaire was developed as one way of responding to that valid criticism. In addition to asking a number of questions on the advisability and mechanics of conducting evaluations of licensees, the questionnaire also asked each Regional respondent to evalu each of the sites he was familiar with in terms of its overall safety and a number of other factors. This report summarizes the results of those ratings.

A survey instrument was prepared and statistical calculations were performed by Hay Associates under NRC Purchase Orders DR-77-1322 and DR-77-2631. After the questionnaire was developed with significant input from the IE staff, it was distributed by IE to all appropriate staff members directly associated with the inspection of operating power reactors.

including both Headquarters and Regional employees. To encourage candor and to comply with the Privacy Act, respondents were asked *not* to sign their names to the questionnaire and all responses were mailed directly to and complied by Hay Associates.

Use of Site Rating Information

The views solicited in this questionnaire constitute predecisional opinions that are intended primarily to contribute to the development of a methodology for evaluating NRC licensees. For this and several other reasons, the site rating information may not be appropriate for release to the public. Although the information is untested, unvalidated, not directly related to licensee compliance with NRC requirements, and unreviewed by licensees, it may be of some use to IE management in gaining insights into the perceived safety at the 45 operating power reactor sites licensed by NRC. Some of the information may provide additional insights that will help identify inspection program improvements or form the basis for management conferences with licensees. For these latter purposes, the information should be used with some discretion and with an awareness of its limitations noted above.

The results of the site rating information are presented in summary form to adhere to the requirements of the Privacy Act by preventing the specific responses of any single individuals to be identified.

Survey Procedures

The questionnaire was distributed to all employees of IE associated with the inspection of operating power reactors. In rating specific sites, Regional respondents were asked to "rate sites you feel you know enough about to evaluate. *Some* of your knowledge of that site should have been gathered since January 1976."

Respondents were asked to rate each site they were familiar with by filling out a two-page section of questions (see Figures 1a and 1b on the following pages). The first eleven questions for each site asked the respondent to assess the safety of the site in terms of its overall safety (question 1) and in terms of ten additional factors (questions 2 - 11). For each of these eleven ratings, the respondents were asked to "draw a line indicating how safe you think this site is." A scale labeled "SAFETY" was provided for this purpose. The endpoints of this safety scale were labeled "ACCEPTABLE" and "EXCEPTIONAL." The following definitions were provided:

1. Safety - the degree to which the licensee protects the public against exposure to radiation resulting from the licensee's use of nuclear materials.

2. Acceptable - barely safe enough to be permitted to continue operating.

3. Exceptional - having a virtual absence of risk.

The "acceptable" endpoint was so labeled because all plants currently permitted to operate by NRC were presumed to be at least marginally satisfactory. In the event a respondent considered a plant less than "acceptable," a space for narrative comments about the safety of each site was provided (question 18).

Respondents were asked to describe their own level of knowledge of the site, identify whether they were the Principal Inspector for the site, and indicate how recently they had inspected the site (questions 12 - 14). Another question (15) asked for a comparison of the site's requirements

Figure 1a: Sample Rating Page 1

OPERATING SITE:

NAME: ______________________

DOCKET NO.: ______________________

Considering all you know about this site, what overall general safety rating would you give to it? Draw a line indicating how safe you think this site is.

	SAFETY
	ACCEPTABLE . . . . EXCEPTIONAL
1. Overall safety	|. . . . .|

Draw a line indicating how safe you feel this site is in terms of the following factors:

	SAFETY
	ACCEPTABLE . . . . EXCEPTIONAL
General attitude of plant personnel toward:	
2. Maintenance of safety	|. . . . .|
3. Cooperation with NRC	|. . . . .|
4. Technical competence of plant personnel	|. . . . .|
5. Quality of design, construction, components	|. . . . .|
6. Administrative controls	|. . . . .|
7. Operations	|. . . . .|
8. Emergency planning	|. . . . .|
9. Radiation protection and control	|. . . . .|
10. Safeguards	|. . . . .|
11. Quality assurance	|. . . . .|

Figure 1b: Sample Rating Page 2

12. How well do you know this site and its safety characteristics:

HARDLY AT ALL						EXTREMELY WELL
1	2	3	4	5	6	7

13. Are you the Principal Inspector for a reactor on this site?

Yes ☐
No ☐

14. About how many months ago did you last inspect this site? ________months ago.

15. The NRC requirements that this site must follow are:

MUCH LESS DEMANDING THAN THOSE OF OTHER SITES						MUCH MORE DEMANDING THAN THOSE OF OTHER SITES
1	2	3	4	5	6	7

16. Have there been any changes in the overall safety of this site since January 1977, that have caused its safety level to change? (Check one)

1. ________ No change in safety at site
2. ________ Safety slightly improved
3. ________ Safety substantially improved
4. ________ Safety slightly worse
5. ________ Safety substantially worse
6. ________ Don't know

17. If a change in safety level occurred, please describe it briefly.

____
____
____
____

18. Are there other things we should consider about the safety of this site?

Yes ☐
No ☐

If yes, please explain: ____
____
____
____

If this is the last site you are rating, please turn to page 54 and complete the questionnaire.

with those of other sites in terms of being more of less demanding. Finally, respondents were asked to indicate whether site safety had changed since January 1977, to describe how it had changed, and to add any other comments relevant to the safety of the site (questions 16 - 18).

In addition to rating each site they were familiar with, all respondents were asked to assess the safety of a fictitious site that was defined as the average of the 45 operating nuclear reactor sites in the U.S. This section was included to provide a means of calibrating the responses of employees from different Regional Offices.

Computational Procedures

All site safety ratings were converted to digital scores by manual measurement and recording of the responses to the "draw a line" questions. The ratings of the "typical site" were similarly reduced to digital form. Mean rating scores for each site were then calculated. Comparability was a major concern in comparing ratings of sites in various Regions, because people in one Region were generally unfamiliar with and did not rate sites in Regions other than their own. To compensate for potential differences in ratings between Regions, each person's rating of each site was raised or lowered based upon how his rating of the "typical site" compared to the average of all respondents' rating of the "typical site." This linear "rubber band" transform makes the ratings of site safety comparable across all raters and Regions. These adjusted site ratings were reconverted to a graphical format for display.

Averages for the numerical responses to other site rating questions were also calculated, and responses to the narrative site rating questions were paraphrased.

Results

Ratings of the "typical site," shown in Figure 2, illustrate the format used to present site ratings. The top of the rating sheet depicts the safety ratings of the site in terms of overall safety and the other ten safety factors, all shown on a scale of "acceptable" to "exceptional." The squares shown on the scale for each factor represent the mean rating, and the two circles on each scale represent the high and low ratings for each factor. As shown in Figure 2, the typical site is rated somewhat more than halfway between acceptable and exceptional, and ratings of the ten individual safety factors are in the same range. The perceived weakest areas, by a small margin, are Quality Assurance, Emergency Planning, and Administrative Controls. For the typical plant, the range of responses covers the entire scale for almost every factor. The ratings of the typical site reflect the judgments of 94 persons.

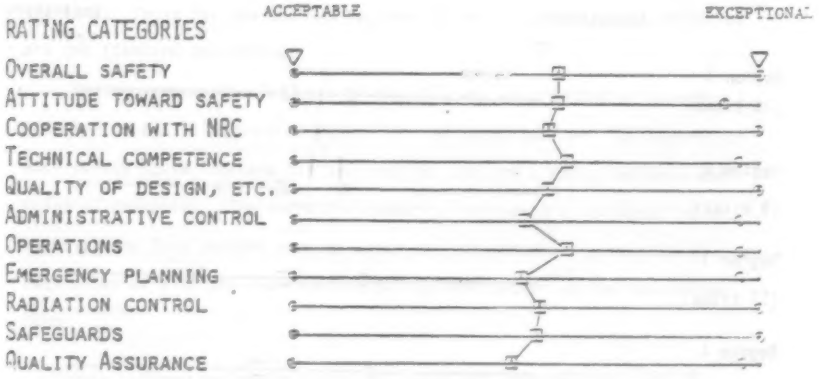
Because the typical site is fictitious, it did not receive ratings for the "familiarity of the raters with site," the "average number of months since raters' last inspection," or the "stringency of requirements for site."

Of the 94 persons rating the average site, 72 expressed opinions on the "change in site safety since January 1977." Most people felt that site safety had either improved slightly (39) or substantially (4), while about 40 percent (28 people) felt there was no change. Only one person thought that safety at the typical site had become worse since January 1977. There were no narrative comments solicited or offered about the safety of the typical site.

The means and standard deviations of the adjusted "overall safety" ratings are shown by Region in Figure 3. The mean adjusted safety rating for each Region is indicated by the square and the arrows represent the associated standard deviations. These results confirm that there are

SITE Typical Site in U.S.

Figure 2: Rating of the Typical Site DOCKET NUMBER 50-999



NUMBER OF PEOPLE RATING SITE = 94

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = N/A
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = N/A

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = N/A
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

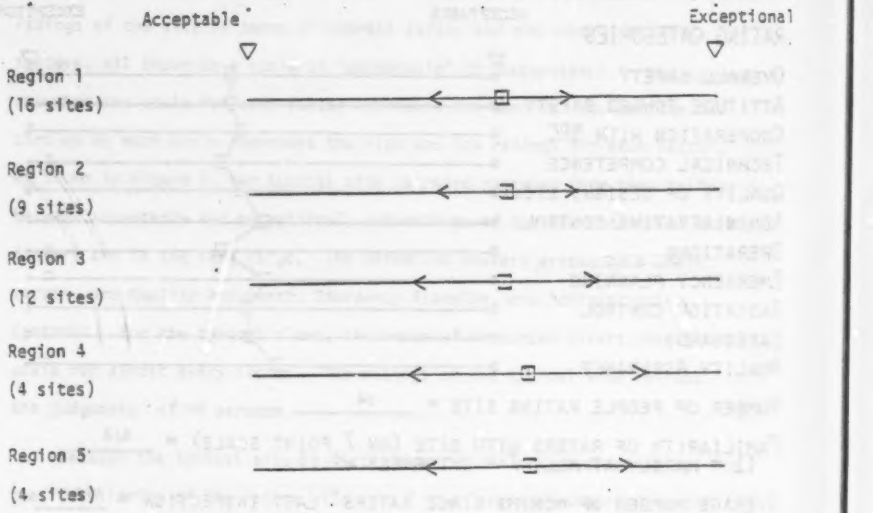
INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

1 = NO CHANGE IN SAFETY..................	28
2 = SAFETY SLIGHTLY IMPROVED............	39
3 = SAFETY SUBSTANTIALLY IMPROVED........	4
4 = SAFETY SLIGHTLY WORSE...............	1
5 = SAFETY SUBSTANTIALLY WORSE..........	0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

best copy available

FIGURE 3: AVERAGE SITE RATINGS BY REGION*



*Squares indicate regional means of adjusted "overall safety" ratings. Arrows represent standard deviations.

no substantial differences in the average ratings between Regions after each individual's ratings are adjusted to account for his assessment of the typical site. The means for the three large regions (1,2, and 3) are virtually the same. Those for the smaller Regions (4 and 5) are slightly greater as are the standard deviations.

Rating information for each of the 45 sites is provided as Appendix A. A separate page is devoted to each site. As noted earlier, the squares on each safety scale indicate the mean rating, and the circles indicate the range of responses. The narrative comments represents a paraphrasing of observations from various persons which are not necessarily consistent with each other or with the quantitative rating information at the top of the form.

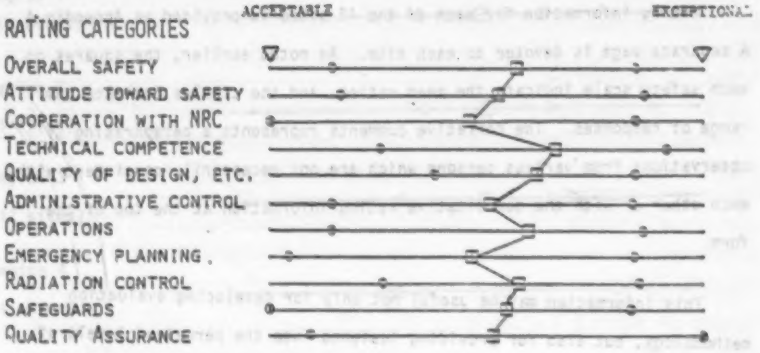
This information may be useful not only for developing evaluation methodology, but also for providing insights into the perceived levels of site safety, specific strengths and weaknesses at each site, overall trends toward improvement or degradation of performance, and possible improvements in inspection strategies.

APPENDIX A

INDIVIDUAL SITE RATINGS

SITE Calvert Cliffs

DOCKET NUMBER 50-317



NUMBER OF PEOPLE RATING SITE = 15

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.9
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 5.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 5.8
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

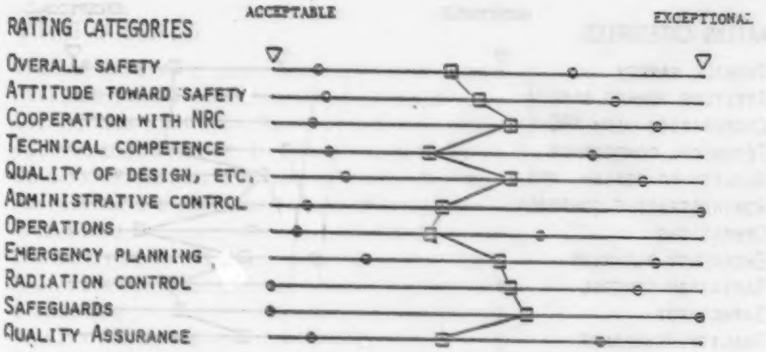
1 = NO CHANGE IN SAFETY..................	6
2 = SAFETY SLIGHTLY IMPROVED............	5
3 = SAFETY SUBSTANTIALLY IMPROVED........	0
4 = SAFETY SLIGHTLY WORSE................	1
5 = SAFETY SUBSTANTIALLY WORSE...........	0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Management more attentive as a result of enforcement conference. An important staff member is anti-NRC and anti-QA. Security is improved. This site doesn't do more for safety than meet minimum requirements. Emphasis is upon commercial operation; attitude toward safety is that meeting NRC requirements literally is sufficient.

SITE Beaver Valley

DOCKET NUMBER 50-334



NUMBER OF PEOPLE RATING SITE = 13

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.3
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 5.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 5.5
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

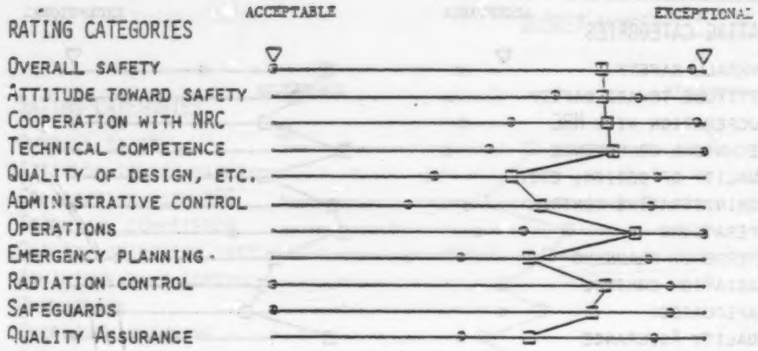
1 = NO CHANGE IN SAFETY.................... 2
2 = SAFETY SLIGHTLY IMPROVED.............. 6
3 = SAFETY SUBSTANTIALLY IMPROVED........ 1
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Staff is experienced. QA controls improved. Staff is improving. Bugs are being worked out of equipment and administrative controls. Plant management has improved. Security has improved with increased requirements. Staff still learning.

SITE Connecticut Yankee

DOCKET NUMBER 50-213



NUMBER OF PEOPLE RATING SITE = 9

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 7.6

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.7
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

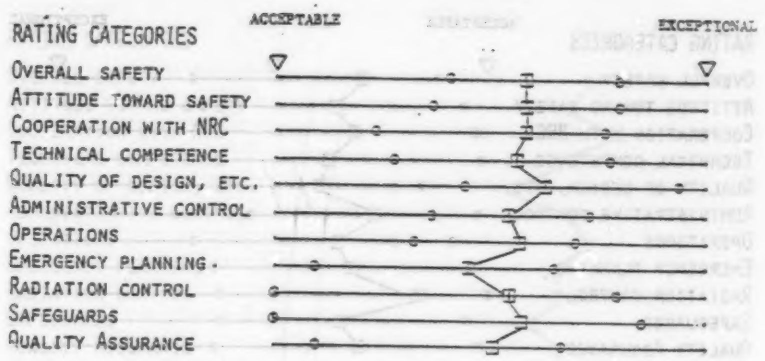
1 = NO CHANGE IN SAFETY.................. 7
2 = SAFETY SLIGHTLY IMPROVED.............. 1
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Overall safety should be improved at the completion of ongoing design requirement and license condition upgrading.

SITE Fitzpatrick

DOCKET NUMBER 50-333



NUMBER OF PEOPLE RATING SITE = 11

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.0
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 5.5.

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.6
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

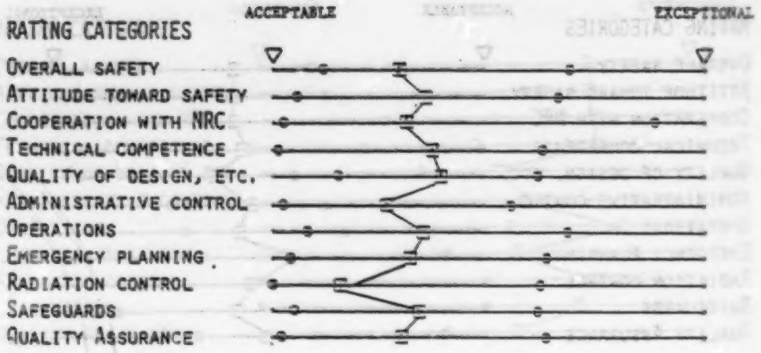
1 = NO CHANGE IN SAFETY.................... 4
2 = SAFETY SLIGHTLY IMPROVED............... 6
3 = SAFETY SUBSTANTIALLY IMPROVED.......... 0
4 = SAFETY SLIGHTLY WORSE.................. 0
5 = SAFETY SUBSTANTIALLY WORSE............. 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Plant has a new operator (PASNY) that appears to have made improvements. Is increased management attention to operations. New security procedures are in effect. New management has improved technical competance and management and administrative controls. Design has been modified to add safety systems. Excellar fire protection and security systems. Management improvements noted.

SITE Indian Point

DOCKET NUMBER 50-003



NUMBER OF PEOPLE RATING SITE = 13

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.5
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 5.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.8
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

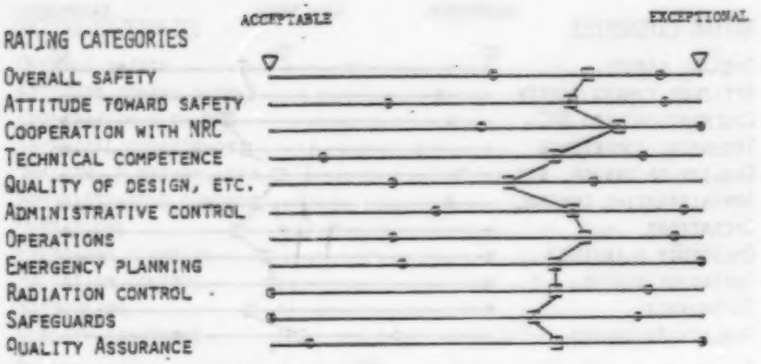
1 = NO CHANGE IN SAFETY.................. 4
2 = SAFETY SLIGHTLY IMPROVED............. 4
3 = SAFETY SUBSTANTIALLY IMPROVED........ 3
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Indian Point Unit 3 is superior in all respects to Unit 2, primarily because of its management controls and personnel. Considerable recent attention to HP, safeguards, and other areas of Unit 2 operations has resulted in considerable upgrading. Radiation health controls have improved. Recent problem with instrumentation. Does not have a QA plan meeting current requirements. Unit 3 rated higher than Unit 2 because PASNY management better than that of Con. Ed. Significant recent improvements in management control. Corporate management attitude continues to limit effectiveness of site management. Need to continue more frequent inspections by our best inspectors.

SITE Ginna

DOCKET NUMBER 50-244



NUMBER OF PEOPLE RATING SITE = 11

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.4
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 8.5

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.4
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

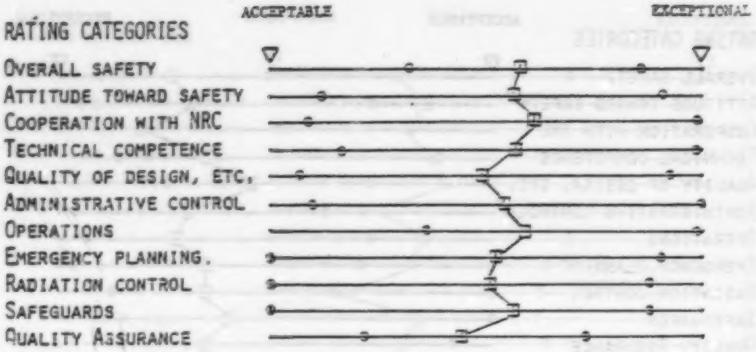
1 = NO CHANGE IN SAFETY.................. 9
2 = SAFETY SLIGHTLY IMPROVED.............. 0
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

The plant is old, small, and run safely.

SITE Millstone

DOCKET NUMBER 50-245



NUMBER OF PEOPLE RATING SITE = 20

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.0
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 6.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.5
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

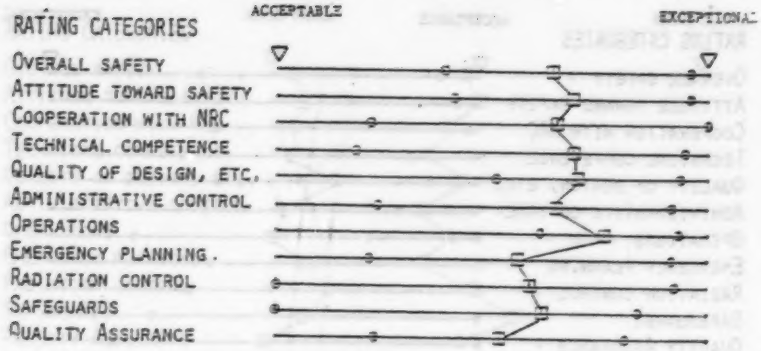
1 = NO CHANGE IN SAFETY.................. 9
2 = SAFETY SLIGHTLY IMPROVED............ 5
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Unit 1, an old BWR, is rated lower than Unit 2. Awareness of safety has increased. The different units operate relatively independently, and each has a different vendor. Improved security arrangements. Plant lacks full separation and fire protection systems. Rad waste system undersized. New QA organization seems slightly better.

SITE Maine Yankee

DOCKET NUMBER 50-309



NUMBER OF PEOPLE RATING SITE = 10

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.5
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 9.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.5
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

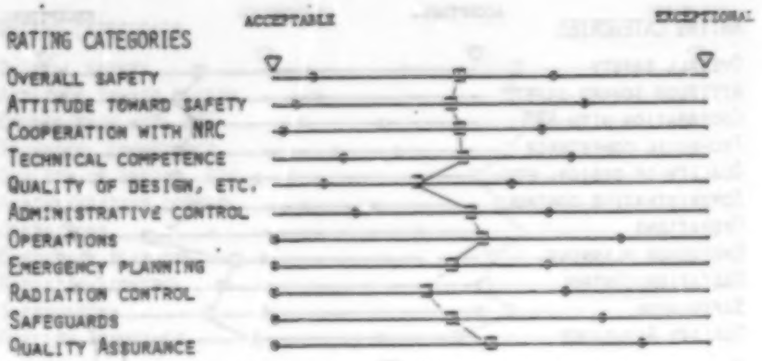
1 = NO CHANGE IN SAFETY.................... 8
2 = SAFETY SLIGHTLY IMPROVED.............. 0
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................. 0
5 = SAFETY SUBSTANTIALLY WORSE............ 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

The cleanliness of this plant reflects a pride of ownership and indicates happy people working at a good plant. QA plan was recently upgraded.

SITE Oyster Creek

DOCKET NUMBER 50-219



NUMBER OF PEOPLE RATING SITE = 14

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.5
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 10.0

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 2.9
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

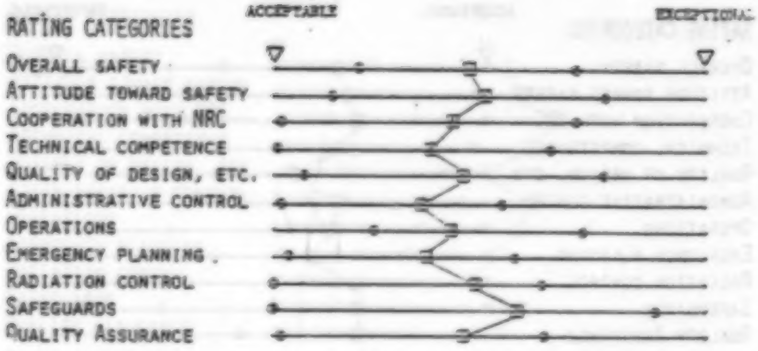
1 = NO CHANGE IN SAFETY.................... 6
2 = SAFETY SLIGHTLY IMPROVED.............. 5
3 = SAFETY SUBSTANTIALLY IMPROVED.......... 0
4 = SAFETY SLIGHTLY WORSE.................. 0
5 = SAFETY SUBSTANTIALLY WORSE............. 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Security should be upgraded (guard force and surveillance). New operating procedures and maintenance systems have improved safety. QA program has been more fully implemented. As an early BWR, plant has inherently different safety characteristics. Facility management has not endorsed in principle a comprehensive management control system. They tend to just meet the minimum requirements. Design review of this plant was deficient. Plant was built at minimum cost. Rad waste, fire protection, and system separation are inadequate. Corporate management has firsthand knowledge of plant.

SITE Nine Mile Point

DOCKET NUMBER 50-220



NUMBER OF PEOPLE RATING SITE = 13

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.5
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 10.0

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 2.9
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

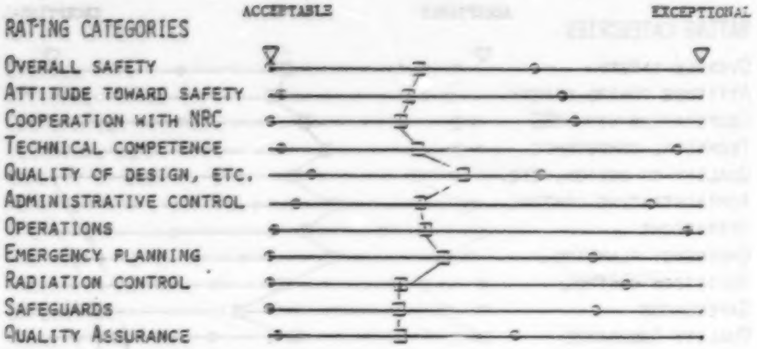
1 = NO CHANGE IN SAFETY.................. 11
2 = SAFETY SLIGHTLY IMPROVED.............. 0
3 = SAFETY SUBSTANTIALLY IMPROVED......... 0
4 = SAFETY SLIGHTLY WORSE................. 0
5 = SAFETY SUBSTANTIALLY WORSE............ 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Plant was operated by former fossil plant people; they have not yet become nuclear people. This is an old plant, but its engineering, layout, and construction are g Do not have enough on-site plant support except in operations. Security program excellent. Plant deficient in system separation and high pressure inspection systems. Conservative approach to operations. Plant staff has been stable. Plant has experienced BWR operators.

SITE Peach Bottom

DOCKET NUMBER 50-277



NUMBER OF PEOPLE RATING SITE = 19

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.0
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 5.5

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.3
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

1 = NO CHANGE IN SAFETY.................. 8
2 = SAFETY SLIGHTLY IMPROVED.............. 3
3 = SAFETY SUBSTANTIALLY IMPROVED.......... 0
4 = SAFETY SLIGHTLY WORSE................ 3
5 = SAFETY SUBSTANTIALLY WORSE............ 0

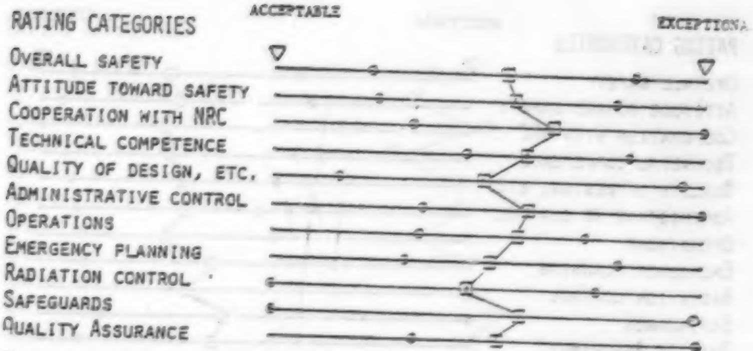
NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

This is the least safe site in Region I and has the poorest management. QA and sec. are not upgraded to current standards. Many repeat items of noncompliance. Plant staff has appeared incapable of correcting increased plant radiation levels. Management is slow responding to problems. A greater inspection frequency is partially attributable to proximity to regional office. Expect improvements as a result of management meeting with company president. Operating staff presently error-prone due to back-to-back overhaul periods for Units 2 and 3. General attitude of plant appears to be compliance only as required. Careless operations and poor maintenance

Over

SITE Pilgrim

DOCKET NUMBER 50-293



NUMBER OF PEOPLE RATING SITE = 13

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 8.6

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.2
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

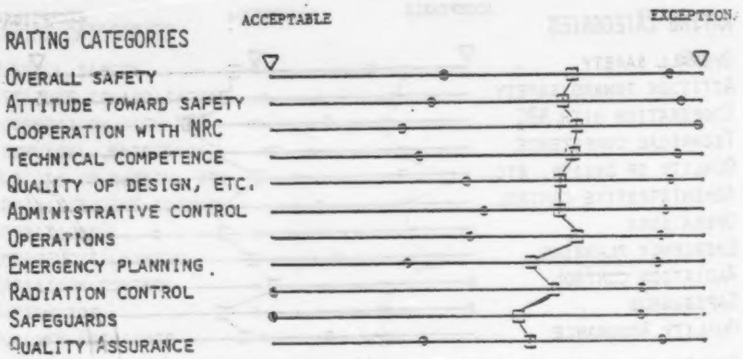
1 = NO CHANGE IN SAFETY.................. 7
2 = SAFETY SLIGHTLY IMPROVED............ 1
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 1
5 = SAFETY SUBSTANTIALLY WORSE........... 1

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

The generation of its design may be an overriding factor for this early BWR. Corporate management improved. Radiation management improved. Frequent station manager changes. Significant reductions in effluents and worker exposures expecte Plant management has not been stable. This is the cleanest BWR in the country.

SITE Three Mile Island

DOCKET NUMBER 50-289



NUMBER OF PEOPLE RATING SITE = 14

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 6.6

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.7
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

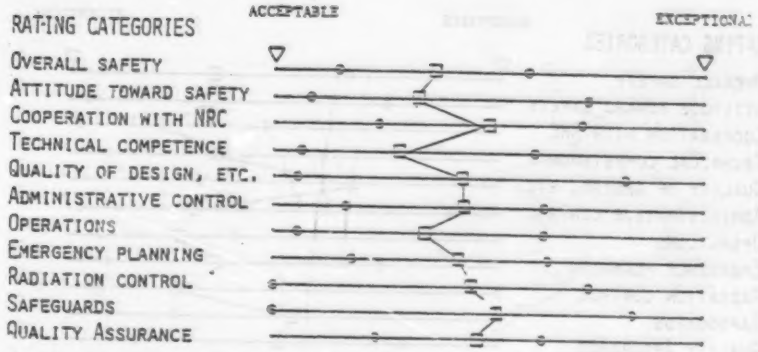
1 = NO CHANGE IN SAFETY.................. 9
2 = SAFETY SLIGHTLY IMPROVED............ 1
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Station and unit superintendents are new. Security has improved. This is first B&W plant of current generation. Management control during construction was deficient. Management control in operations is strong. Overall site safety may decrease because staff has become diluted with the licensing of Unit 2.

SITE Salem

DOCKET NUMBER 50-272



NUMBER OF PEOPLE RATING SITE = 10

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.5
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 4.9

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 5.3
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

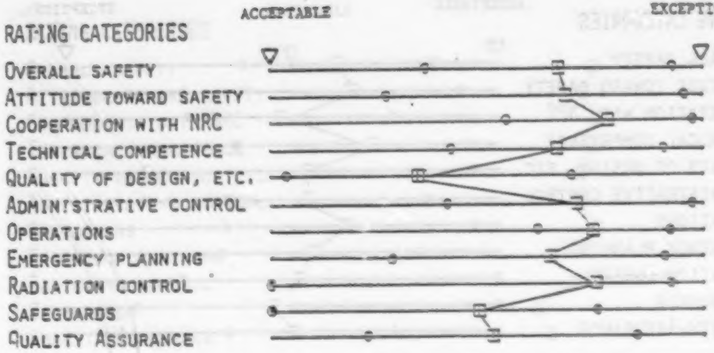
1 = NO CHANGE IN SAFETY.................. 6
2 = SAFETY SLIGHTLY IMPROVED............. 1
3 = SAFETY SUBSTANTIALLY IMPROVED........ 1
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

The plant control room is very poorly designed. This is a relatively new plant wit growing pains. It needs close inspection attention to assure that appropriate improvements are made. Have had a number of problems in startup phase, which were corrected by management. Problems with operator controls.

SITE Yankee Rowe

DOCKET NUMBER 50-029



NUMBER OF PEOPLE RATING SITE = 10

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 10.1

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 2.4
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

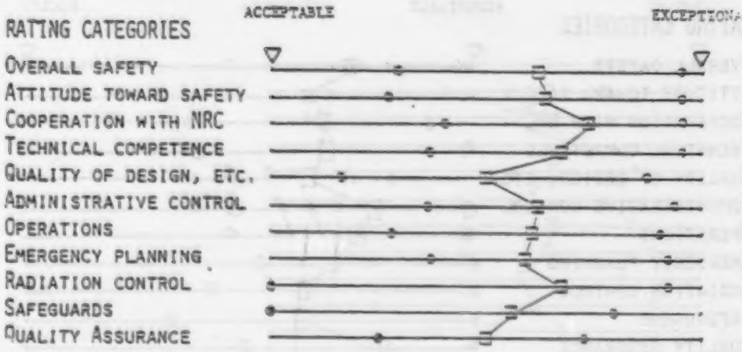
1 = NO CHANGE IN SAFETY....................	6
2 = SAFETY SLIGHTLY IMPROVED............	1
3 = SAFETY SUBSTANTIALLY IMPROVED........	0
4 = SAFETY SLIGHTLY WORSE.................	0
5 = SAFETY SUBSTANTIALLY WORSE...........	0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Plant is very small and very isolated. It presents virtually no health hazard to the public. Has old Tech Spec's. Upgraded QA program in 1977.

SITE Vermont Yankee

DOCKET NUMBER 50-271



NUMBER OF PEOPLE RATING SITE = 12

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 10.2

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.8
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

1 = NO CHANGE IN SAFETY.................. 9
2 = SAFETY SLIGHTLY IMPROVED............. 1
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

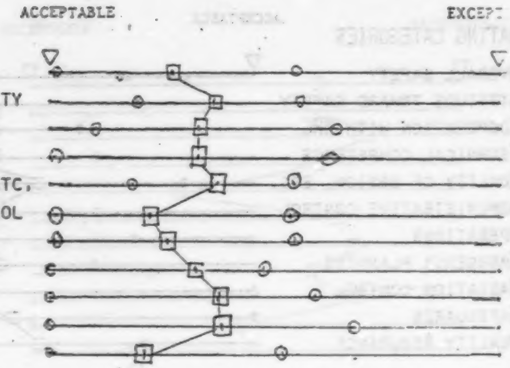
QA plan has been upgraded. Management controls somewhat degraded by frequent changes in plant superintendent. Very clean plant. Management experience and depth is increasing.

SITE Brunswick

DOCKET NUMBER 50

RATING CATEGORIES

OVERALL SAFETY
ATTITUDE TOWARD SAFETY
COOPERATION WITH NRC
TECHNICAL COMPETENCE
QUALITY OF DESIGN, ETC.
ADMINISTRATIVE CONTROL
OPERATIONS
EMERGENCY PLANNING
RADIATION CONTROL
SAFEGUARDS
QUALITY ASSURANCE



NUMBER OF PEOPLE RATING SITE = 10

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.7
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 9.0

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.9
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

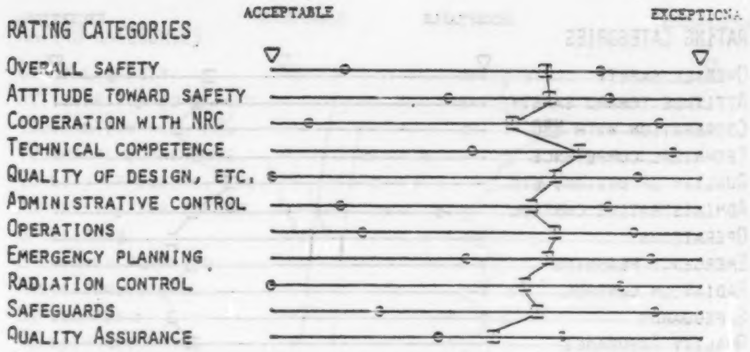
1 = NO CHANGE IN SAFETY.................... 2
2 = SAFETY SLIGHTLY IMPROVED.............. 4
3 = SAFETY SUBSTANTIALLY IMPROVED......... 0
4 = SAFETY SLIGHTLY WORSE.................. 1
5 = SAFETY SUBSTANTIALLY WORSE............ 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Site has reorganized and has new people in Key positions. Some improvement i
adminstrative controls. Management seems to become more aware of events at
None of the top site management have had SRO training in BWR's. High personne
turnover rate. Plant management seems to believe that they are "over-regulat

SITE Browns Ferry

DOCKET NUMBER 50-259



NUMBER OF PEOPLE RATING SITE = 10

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.9
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 9.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.7
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

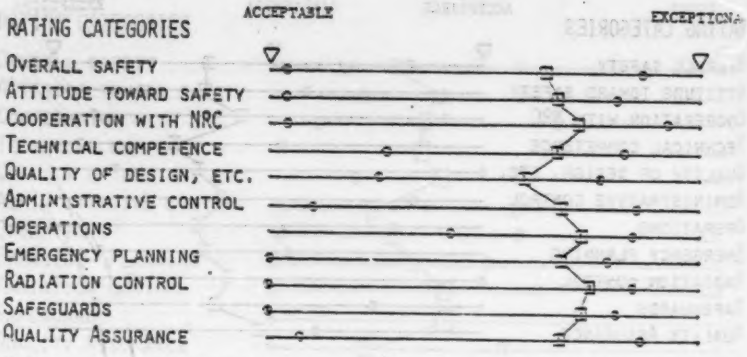
INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

1 = NO CHANGE IN SAFETY.................... 2
2 = SAFETY SLIGHTLY IMPROVED............... 4
3 = SAFETY SUBSTANTIALLY IMPROVED.......... 0
4 = SAFETY SLIGHTLY WORSE.................. 1
5 = SAFETY SUBSTANTIALLY WORSE............. 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Attention to QA details has decreased slightly. Greater experience of plant pers has contributed to improved safety and operations. More NRC inspections and plant management changes have also helped. Response to alarms has improved as a result of an enforcement meetings. Greater safety awareness. Fire protection improved.

SITE Hatch
DOCKET NUMBER 50-321



NUMBER OF PEOPLE RATING SITE = 9

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 4.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.5
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

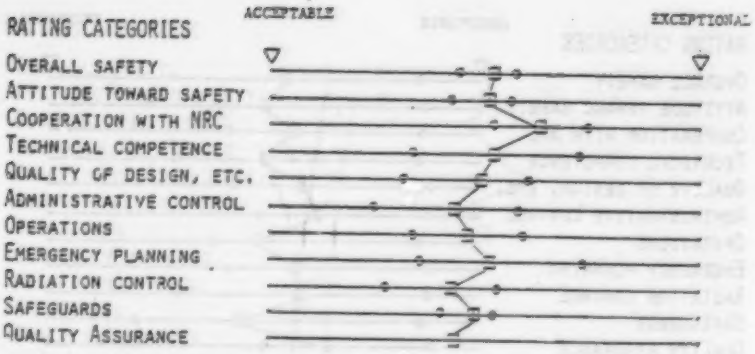
1 = NO CHANGE IN SAFETY.................. 3
2 = SAFETY SLIGHTLY IMPROVED............ 4
3 = SAFETY SUBSTANTIALLY IMPROVED....... 0
4 = SAFETY SLIGHTLY WORSE............... 0
5 = SAFETY SUBSTANTIALLY WORSE.......... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Upgrading of administrative and QA controls is continuing.

SITE Crystal River

DOCKET NUMBER 50-302



NUMBER OF PEOPLE RATING SITE = 3

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.0
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 6.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 5.0
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

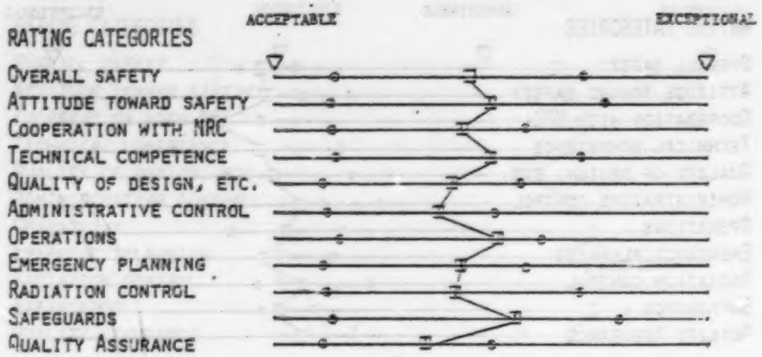
1 = NO CHANGE IN SAFETY........................1
2 = SAFETY SLIGHTLY IMPROVED...............2
3 = SAFETY SUBSTANTIALLY IMPROVED........0
4 = SAFETY SLIGHTLY WORSE.....................0
5 = SAFETY SUBSTANTIALLY WORSE.............0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety slightly improved because of more safety awareness. Operations and administrative controls improved.

SITE Robinson

DOCKET NUMBER 50-261



NUMBER OF PEOPLE RATING SITE = 7

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.4
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 9.2

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 2.7
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

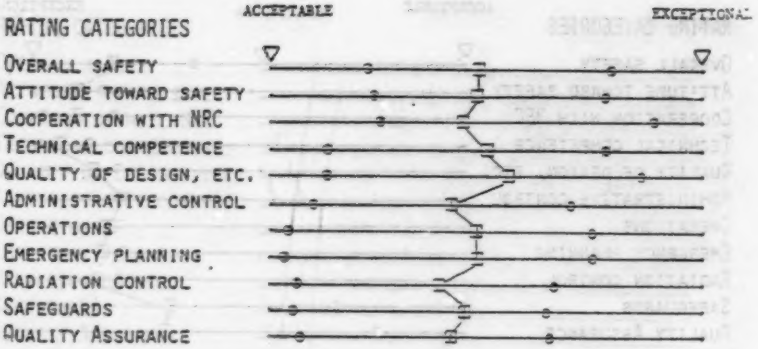
1 = NO CHANGE IN SAFETY.................... 4
2 = SAFETY SLIGHTLY IMPROVED................ 2
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE.................... 0
5 = SAFETY SUBSTANTIALLY WORSE............. 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Licensee has made increased commitment to QA and QC. Licensee reports only those items that are conspicuously reportable. Licensee impedes inspector access and freedom of movement at site. No information freely given. Does only what is required.

SITE Oconee

DOCKET NUMBER 50-269



NUMBER OF PEOPLE RATING SITE = 6

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.3
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 17.0

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.0
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

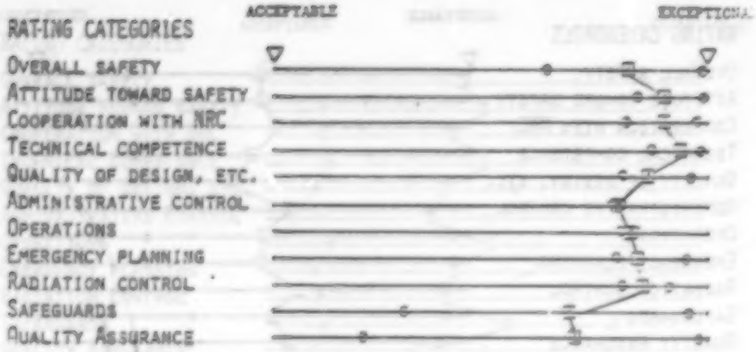
INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

1 = NO CHANGE IN SAFETY.................. 3
2 = SAFETY SLIGHTLY IMPROVED............ 1
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

A change in the operating superintendent is expected to result in improvements.

SITE Saint Lucie
DOCKET NUMBER 50-335



NUMBER OF PEOPLE RATING SITE = 3

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 6.3
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 2.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 6.0
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

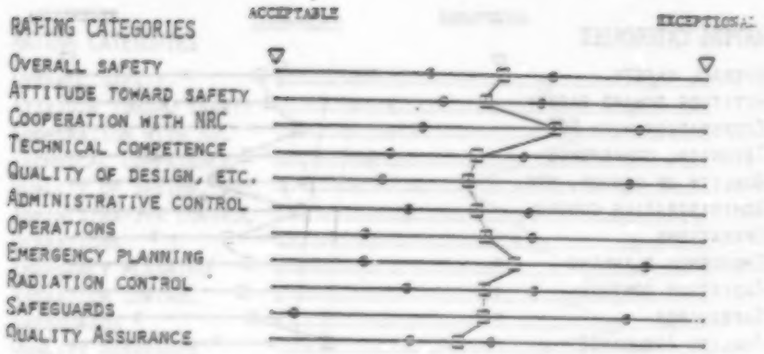
1 = NO CHANGE IN SAFETY	1
2 = SAFETY SLIGHTLY IMPROVED	1
3 = SAFETY SUBSTANTIALLY IMPROVED	0
4 = SAFETY SLIGHTLY WORSE	0
5 = SAFETY SUBSTANTIALLY WORSE	0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety has improved due to increased experience of plant personnel. Plant's greater than average number of LERs is probably due to conscientiousness in reporting.

SITE Surry

DOCKET NUMBER 50-280



NUMBER OF PEOPLE RATING SITE = 6

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.2
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 14.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.0
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

1 = NO CHANGE IN SAFETY.................... 3
2 = SAFETY SLIGHTLY IMPROVED............... 0
3 = SAFETY SUBSTANTIALLY IMPROVED.......... 0
4 = SAFETY SLIGHTLY WORSE.................. 1
5 = SAFETY SUBSTANTIALLY WORSE............. 0

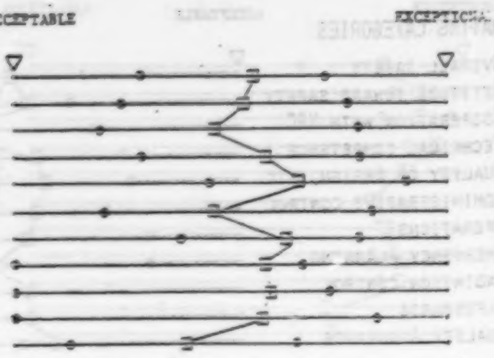
NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety slightly worse due to degradation of steam generator.

SITE Arnold
DOCKET NUMBER 50-331

RATING CATEGORIES

- OVERALL SAFETY
- ATTITUDE TOWARD SAFETY
- COOPERATION WITH NRC
- TECHNICAL COMPETENCE
- QUALITY OF DESIGN, ETC.
- ADMINISTRATIVE CONTROL
- OPERATIONS
- EMERGENCY PLANNING
- RADIATION CONTROL
- SAFEGUARDS
- QUALITY ASSURANCE



NUMBER OF PEOPLE RATING SITE = 9

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.3
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 10.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.6
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

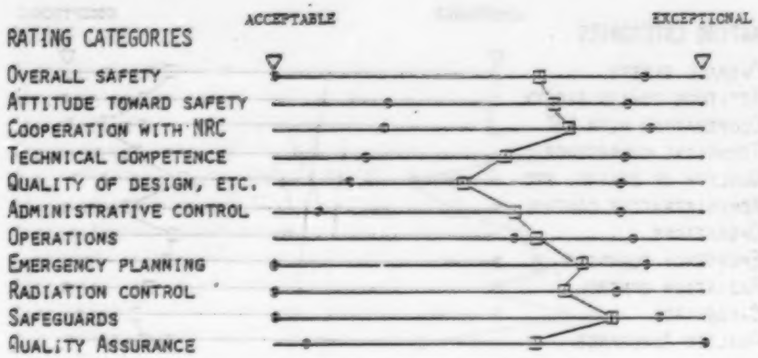
1 = NO CHANGE IN SAFETY.................... 3
2 = SAFETY SLIGHTLY IMPROVED............. 6
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety slightly improved due to improvements in QA and administrative controls, new plant superintendent, enforcement action, and increased inspection effort. Staff is more aware of significance of personnel error. Steady improvements in management controls, competence of staff, and attention from corporate office.

SITE Turkey Point

DOCKET NUMBER 50-250



NUMBER OF PEOPLE RATING SITE = 5

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.8
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 10.0

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.6
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

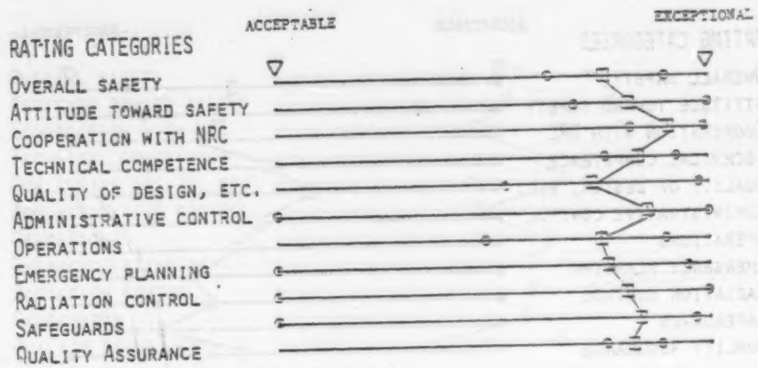
1 = NO CHANGE IN SAFETY.................... 3
2 = SAFETY SLIGHTLY IMPROVED............... 0
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE.................. 1
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety may be slightly worse due to steam generator degradation.

SITE D. C. Cook

DOCKET NUMBER 50-315



NUMBER OF PEOPLE RATING SITE = 7

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.7
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 7.5

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 5.1
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

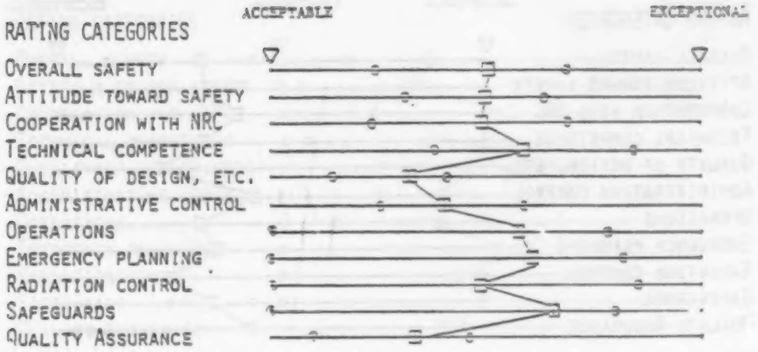
1 = NO CHANGE IN SAFETY.................... 3
2 = SAFETY SLIGHTLY IMPROVED............ 0
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE.................. 2
5 = SAFETY SUBSTANTIALLY WORSE............ 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Plant has standardized Technical Specifications. Resident inspector stationed site for some time. Plant has had increased personnel and procedural errors in 1977. Safety at Unit 1 is slightly worse because plant personnel and management have diverted attention to Unit 2 startup, fire protection, and security. Events are occurring that would not have a year ago.

SITE Big Rock Point

DOCKET NUMBER 50-155



NUMBER OF PEOPLE RATING SITE = 5

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 5.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 2.4
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

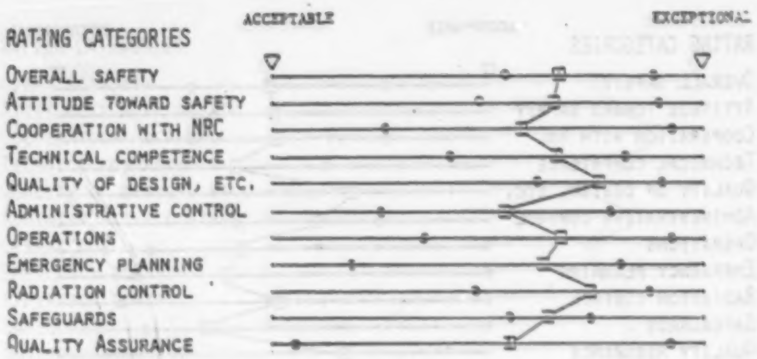
1 = NO CHANGE IN SAFETY.................. 1
2 = SAFETY SLIGHTLY IMPROVED............. 1
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Design and operation of this early BWR are relatively uncomplicated. Plant safety improving due to continuing implementation of QA program and improving technical capability of staff.

SITE Kewaunee

DOCKET NUMBER 50-305



NUMBER OF PEOPLE RATING SITE = 5

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.8
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 5.5

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.3
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

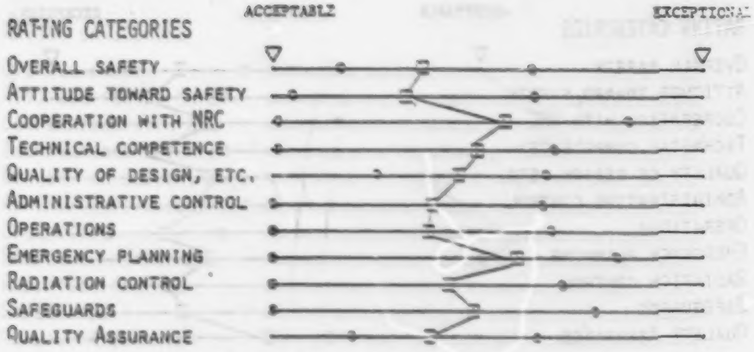
1 = NO CHANGE IN SAFETY.................... 5
2 = SAFETY SLIGHTLY IMPROVED.............. 0
3 = SAFETY SUBSTANTIALLY IMPROVED......... 0
4 = SAFETY SLIGHTLY WORSE................. 0
5 = SAFETY SUBSTANTIALLY WORSE............ 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Resident inspector was assigned at this site. Plant management very stable and cons
Good attribute toward safety. Overall, the site has good operating performance.

SITE Dresden

DOCKET NUMBER 50-010



NUMBER OF PEOPLE RATING SITE = 10

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 6.1

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.9
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

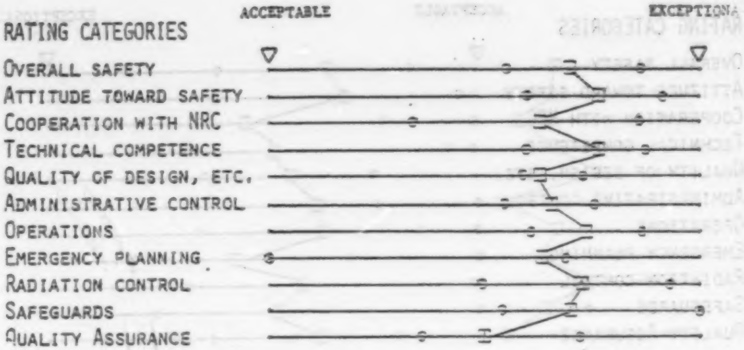
INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

1 = NO CHANGE IN SAFETY.................. 5
2 = SAFETY SLIGHTLY IMPROVED............. 3
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 1

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Training and QA programs have improved. Unit 1, a smaller plant, does not receive priority attention of Units 2 and 3. Manpower availability is a concern. Safety has improved due to better housekeeping and attention to detail. Safety is substantially worse due to poor operations and instrumentation problems.

SITE Monticello
DOCKET NUMBER 50-263.



NUMBER OF PEOPLE RATING SITE = 8

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.1
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 6.5

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.9
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

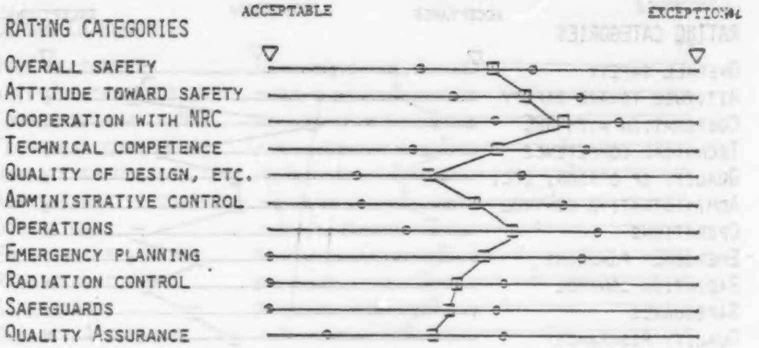
1 = NO CHANGE IN SAFETY.................... 4
2 = SAFETY SLIGHTLY IMPROVED.............. 1
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................. 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

No narrative comments.

SITE LaCrosse

DOCKET NUMBER 50-409



NUMBER OF PEOPLE RATING SITE = 7

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.0
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 2.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 2.9
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

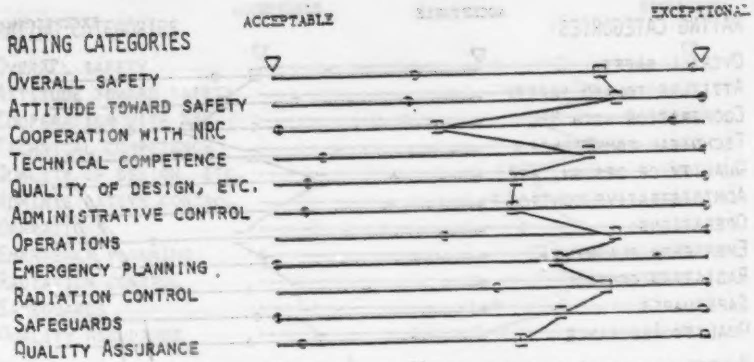
1 = NO CHANGE IN SAFETY.................... 4
2 = SAFETY SLIGHTLY IMPROVED.............. 2
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................. 1
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety slightly worse because of fuel degradation. Safety slightly better because : improved QA program. This plant is an AEC Developmental Reactor with a limited technical staff and minimal corporate backup. This small utility has difficulty absorbing the costs of NRC regulation.

SITE Point Beach

DOCKET NUMBER 50-266



NUMBER OF PEOPLE RATING SITE = 10

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 11.1

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 2.9
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

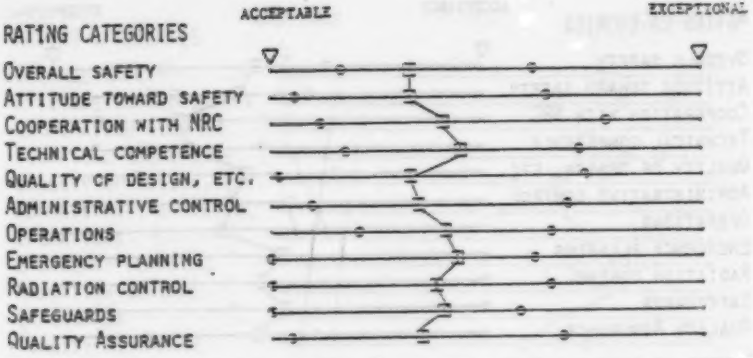
1 = NO CHANGE IN SAFETY.................. 6
2 = SAFETY SLIGHTLY IMPROVED............ 0
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 3

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Plant is an older design attitude of plant management is extremely good. Staff is disciplined, well motivated, and proud of work. Staff offers constructive criticism of NRC. Plant management is strong in all areas, and has a total team effort from staff. Attitude on safety matters is excellent.

SITE Palisades

DOCKET NUMBER 50-255



NUMBER OF PEOPLE RATING SITE = 8

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.8
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 9.4

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.8
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

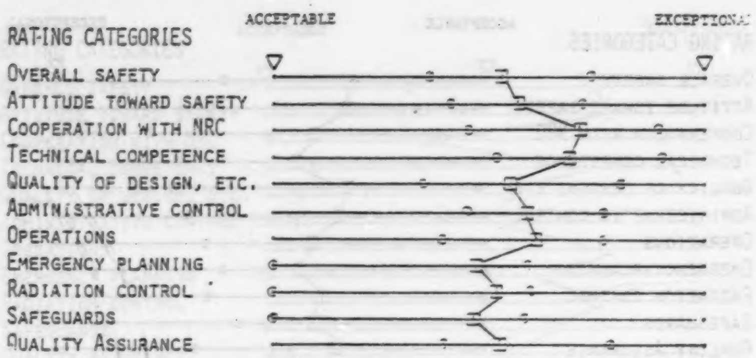
1 = NO CHANGE IN SAFETY.................. 2
2 = SAFETY SLIGHTLY IMPROVED............. 3
3 = SAFETY SUBSTANTIALLY IMPROVED........ 1
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety is improved as a result of continuing QA program implementation. Management has been more attentive to the timely correction of problems. Resident inspector was assigned to site.

SITE Quad Cities

DOCKET NUMBER 50-254



NUMBER OF PEOPLE RATING SITE = 10

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.3
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 15.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.9
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

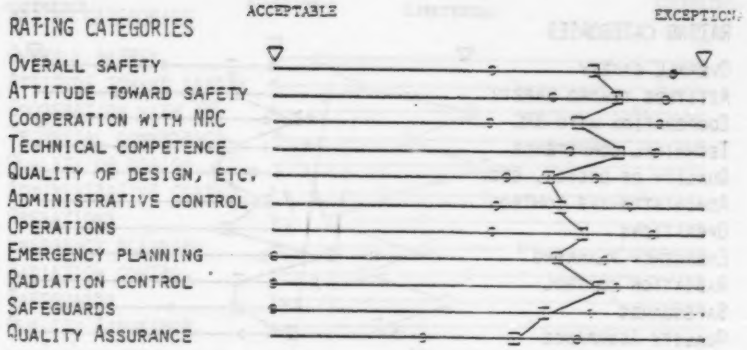
1 = NO CHANGE IN SAFETY....................	4
2 = SAFETY SLIGHTLY IMPROVED...............	1
3 = SAFETY SUBSTANTIALLY IMPROVED........	0
4 = SAFETY SLIGHTLY WORSE..................	1
5 = SAFETY SUBSTANTIALLY WORSE............	0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Licensee has been "overinspected" by NRC and the state for several years. Plant not permitted by state to operate at design load; this affects operator attitudes. Safety slightly improved because of improvements in the training program, the QA program, and the radiological program.

SITE Prairie Island

DOCKET NUMBER 50-28



NUMBER OF PEOPLE RATING SITE = 8

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.8
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 8.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.3
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

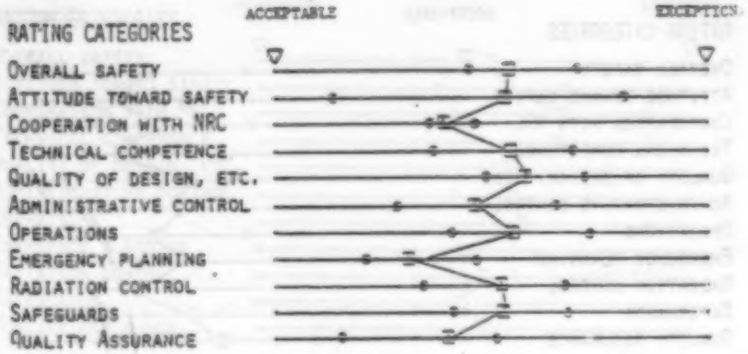
1 = NO CHANGE IN SAFETY.......................... 5
2 = SAFETY SLIGHTLY IMPROVED.............. 0
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE.................. 0
5 = SAFETY SUBSTANTIALLY WORSE............ 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

The technical staff is closely integrated with operations and maintenance; this hel
prevent safety problems and provides good information.

SITE Arkansas

DOCKET NUMBER 50-313



NUMBER OF PEOPLE RATING SITE = 4

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.3
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 1.7

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.5
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

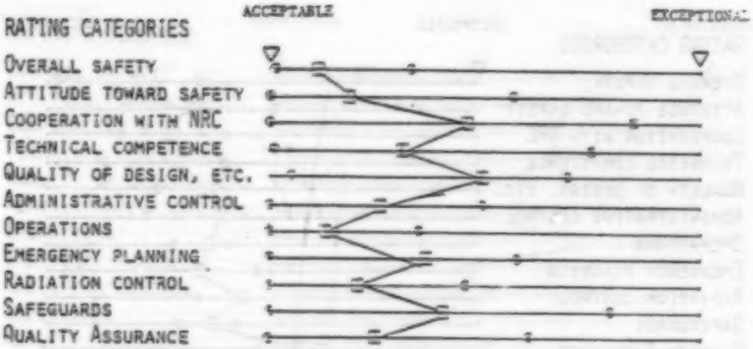
1 = NO CHANGE IN SAFETY........................3
2 = SAFETY SLIGHTLY IMPROVED...................1
3 = SAFETY SUBSTANTIALLY IMPROVED..............0
4 = SAFETY SLIGHTLY WORSE......................0
5 = SAFETY SUBSTANTIALLY WORSE.................0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Management control of plant may be diluted when Unit 2 becomes operational. Safety slightly improved by upgrading of cable penetration barriers, fire protection, and procedural controls. Tech Specs should be upgraded to standard levels.

SITE Zion

DOCKET NUMBER 50-295



NUMBER OF PEOPLE RATING SITE = 13

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 4.6
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 9.7

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.4
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

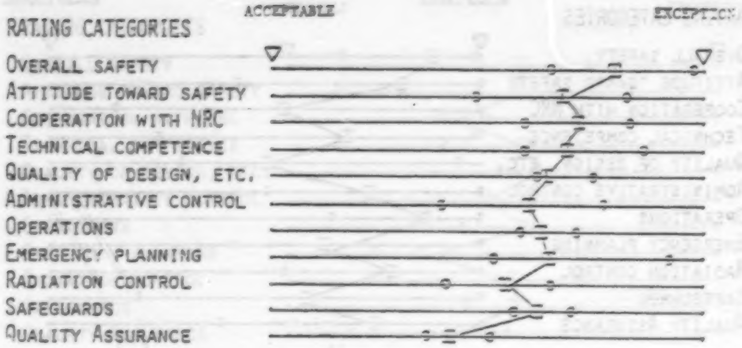
1 = NO CHANGE IN SAFETY.................... 4
2 = SAFETY SLIGHTLY IMPROVED............... 1
3 = SAFETY SUBSTANTIALLY IMPROVED.......... 0
4 = SAFETY SLIGHTLY WORSE.................. 1
5 = SAFETY SUBSTANTIALLY WORSE............. 3

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety is substantially worse because of poor attitude and marginal management. Inadequate management controls. Management lacks ability to discipline employees fo operator errors and carelessness. Personnel selection and discipline may be adverse affected by union relations. Poor management attitude and followups. Size of Commonwealth Edison creates special management problems. Stability of staff a problem. Safety is substantially worse because of failures to conform to Tech Specs and administrative, operating, emergency, and test procedures. Attitude regarding safety is poor. Some improvements in procedures and training.

SITE Fort Calhoun

DOCKET NUMBER 50-285



NUMBER OF PEOPLE RATING SITE = 3

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.3
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 1.0

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.7
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

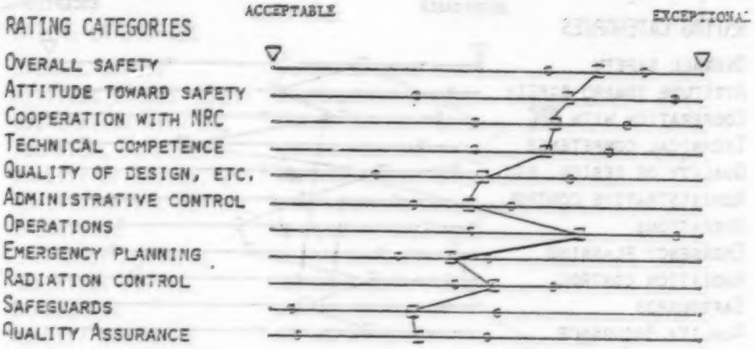
1 = NO CHANGE IN SAFETY.................. 2
2 = SAFETY SLIGHTLY IMPROVED............ 1
3 = SAFETY SUBSTANTIALLY IMPROVED....... 0
4 = SAFETY SLIGHTLY WORSE............... 0
5 = SAFETY SUBSTANTIALLY WORSE.......... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety at this plant is improving as management matures. Management recognizes its safety responsibilities. Employee morale could be affected by too utility attitude about nuclear power.

SITE Cooper

DOCKET NUMBER 50-298



NUMBER OF PEOPLE RATING SITE = 4

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.0
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 6.5

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.0
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

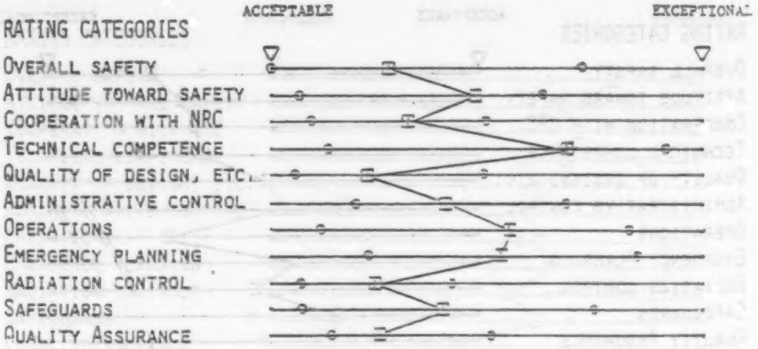
1 = NO CHANGE IN SAFETY.................. 3
2 = SAFETY SLIGHTLY IMPROVED............ 0
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 1
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

No narrative comments.

SITE Humboldt Bay

DOCKET NUMBER 50-133



NUMBER OF PEOPLE RATING SITE = 7

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.9
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 9.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 2.6
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

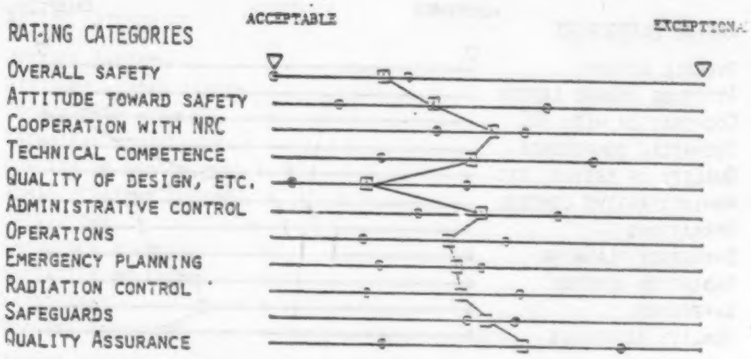
1 = NO CHANGE IN SAFETY.................... 3
2 = SAFETY SLIGHTLY IMPROVED.............. 1
3 = SAFETY SUBSTANTIALLY IMPROVED......... 3
4 = SAFETY SLIGHTLY WORSE................. 0
5 = SAFETY SUBSTANTIALLY WORSE............ 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety is substantially improved due to seismic modifications. Other safety-relevant matters are being pursued by NRR. The plant would be hard pressed to mee current safety criteria.

SITE Fort St. Vrain

DOCKET NUMBER 50-267



NUMBER OF PEOPLE RATING SITE = 5

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.2
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 4.3

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.0
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

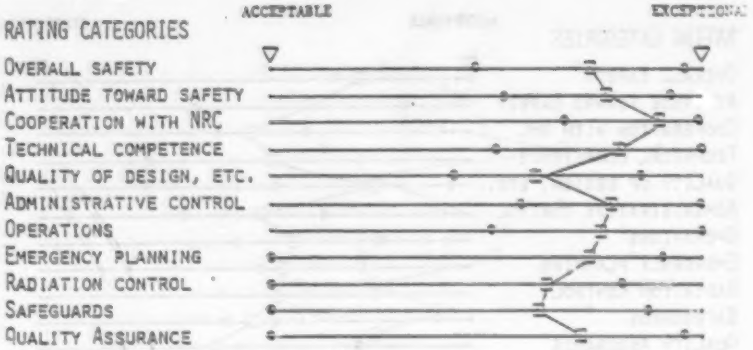
1 = NO CHANGE IN SAFETY....................	3
2 = SAFETY SLIGHTLY IMPROVED............	1
3 = SAFETY SUBSTANTIALLY IMPROVED.........	1
4 = SAFETY SLIGHTLY WORSE..................	0
5 = SAFETY SUBSTANTIALLY WORSE............	0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety substantially improved due to upgrading of cable separation, fire prevention, training program, and operating experience. Have been instrumentation improvements. This HTGR could be categorized as a demonstration plant. Plant safety characteristics are unique. Existing Tech. Specs. need revision.

SITE San Onofre

DOCKET NUMBER 50-206



NUMBER OF PEOPLE RATING SITE = 8

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.4
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 4.7

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 3.6
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

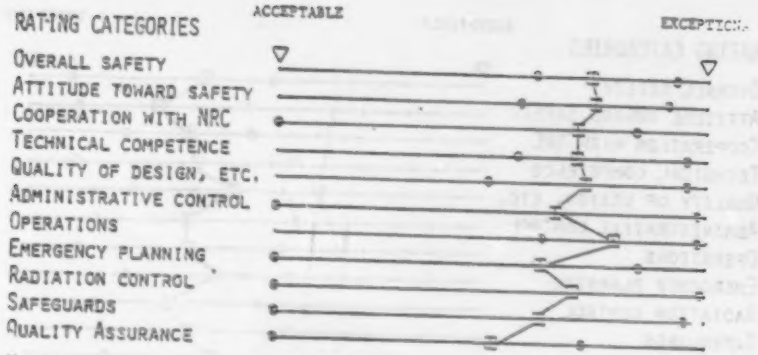
1 = NO CHANGE IN SAFETY....................	2
2 = SAFETY SLIGHTLY IMPROVED..............	2
3 = SAFETY SUBSTANTIALLY IMPROVED........	3
4 = SAFETY SLIGHTLY WORSE..................	0
5 = SAFETY SUBSTANTIALLY WORSE............	0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety is slightly improved because of QA program improvements. Safety is substantially improved because of upgrading of the emergency power system. Utility management has been successful in instilling good safety attitudes and habits uniformly throughout the organization. Extensive ECCS and seismic modes have been completed.

SITE Rancho Seco

DOCKET NUMBER 50-312



NUMBER OF PEOPLE RATING SITE = 7

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.1
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 2.8

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 4.1
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

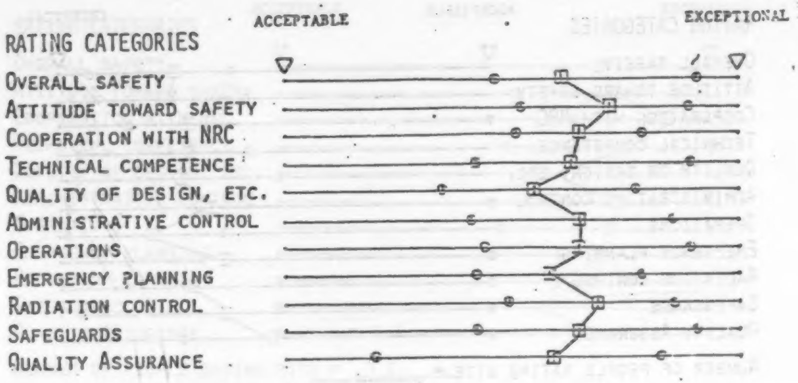
1 = NO CHANGE IN SAFETY.................. 5
2 = SAFETY SLIGHTLY IMPROVED.............. 1
3 = SAFETY SUBSTANTIALLY IMPROVED......... 0
4 = SAFETY SLIGHTLY WORSE.................. 0
5 = SAFETY SUBSTANTIALLY WORSE............. 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety is slightly improved due to increasing operating experience and quality of plant management.

SITE Trojan

DOCKET NUMBER 50-344



NUMBER OF PEOPLE RATING SITE = 8

FAMILIARITY OF RATERS WITH SITE (ON 7 POINT SCALE) = 5.4
(1 = HARDLY AT ALL, 7 = EXTREMELY WELL)

AVERAGE NUMBER OF MONTHS SINCE RATERS' LAST INSPECTION = 3.7

STRINGENCY OF REQUIREMENTS FOR SITE (ON 7 POINT SCALE) = 5.5.
(1 = MUCH LESS DEMANDING THAN THOSE OF OTHER SITES,
7 = MUCH MORE DEMANDING THAN THOSE OF OTHER SITES)

INDICATIONS OF CHANGE IN SITE SAFETY SINCE JANUARY 1977

1 = NO CHANGE IN SAFETY.................. 1
2 = SAFETY SLIGHTLY IMPROVED............ 5
3 = SAFETY SUBSTANTIALLY IMPROVED........ 0
4 = SAFETY SLIGHTLY WORSE................ 0
5 = SAFETY SUBSTANTIALLY WORSE........... 0

NARRATIVE STATEMENTS OF CHANGES IN SAFETY AND OTHER SAFETY CONSIDERATIONS

Safety slightly improved by equipment upgrading and accumulation of operating experience. Active state regulation could affect safety through conflicting requirements. On site QA program implementation has improved. Fire protection program is being implemented. Attitude toward QA and prevention of recurring problems has improved.

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